

RAILWAY AGE

The Railroad Question in the Political Campaign

The railroad problem is one of the most important of all the great problems which now confront the people of the United States. The railways are failing at the rate of about \$300,000,000 a year to earn merely their fixed charges, a large part of them being saved from receivership only by loans from the public treasury. The prices of railway stocks have declined 80 per cent below the lowest prices at which they sold in the depression of 1921, and prices of railway bonds have declined proportionately, while industrial stocks have declined only 34 per cent below the lowest level of 1921. More than a half million of railway employees are out of work. Purchases of equipment, materials and supplies have been cut to the bone, with the result that manufacturers who depend upon the railways for a market are suffering heavy losses and hundreds of thousands of their employees are out of work. Senator Couzens of Michigan, chairman of the Senate Committee on Interstate Commerce, has predicted that, because of competition of other means of transportation, the railways will emerge from the depression facing the necessity of junking ten billion dollars of the property in which their capital is invested, and that the value of virtually all their common stocks will be permanently destroyed. If this should be the outcome, the railway situation would be a heavy drag for years upon the economic recovery of the country, and probably would necessitate the adoption of government ownership.

In view of such conditions in the railroad industry and industries dependent upon it for a market, it might reasonably have been expected that the railroad problem would have been given careful and grave consideration by the two great political parties in selecting their candidates and in framing their platforms. The employees of the railroads and of railway equipment and supply manufacturers represent a large voting power, and hundreds of thousands of railway employees are taking such an interest as they never did before in the government policies

which are so largely responsible for the present condition of the railways and for the reductions of employment and purchases which it has caused.

What the Platforms Say

Nevertheless, the platform adopted by the Democratic national convention at Chicago contains no direct reference to the transportation problem. It advocates "the removal of government from all fields of private enterprise except when necessary to develop public works and natural resources in the common interest." This might or might not be construed as meaning removal of the government from operation of its barge line on the Mississippi river system. That it does not mean discontinuance of the government's wholly wasteful and indefensible expenditures upon inland waterways is shown by the declaration made elsewhere in the platform in favor of "expansion of the federal program of necessary and useful construction affected with a public interest, such as flood control and waterways, including the St. Lawrence-Great Lakes deep waterways."

The Republican platform recommit that party to "development of the Great Lakes-St. Lawrence waterway." It also pledges support to the continuance of federal aid to the states in the construction of highways. In addition, however, it contains a plank which commits the Republican party to the proposition that "the terms of competition fixed by public authorities should operate without discrimination so that all common carriers by rail, highway, air and water shall operate under conditions of equality." It adds: "The railroads constitute the backbone of our transportation system and perform an essential service for the country. The railroad industry is our largest employer of labor and the greatest consumer of goods. The restoration of their credit and the maintenance of their ability to render adequate service are of paramount importance to the public, to their many thousands of employees and to savings

banks, insurance companies and other similar institutions, to which the savings of the people have been intrusted."

There is little room for choice between the past records of the Republican and Democratic parties in their dealings with the problems of transportation. The radicals in both parties usually have dominated transportation legislation and apparently have been determined to ruin the railroads and drive them into government ownership at any cost. Both Republican and Democratic presidents usually have appointed men to the Interstate Commerce Commission whose records regarding transportation matters, if they had any, indicated that they would be more likely to be hostile than helpful to the railroads, although a Democratic president, Woodrow Wilson, is responsible for the appointment of the only commissioner who has openly advocated government ownership while administering a law intended to maintain private ownership. The presidential nominee of the Democratic party, Governor Roosevelt, had an opportunity, in delivering his speech of acceptance, to express his views regarding the transportation problem, but did not avail himself of it.

Importance of Transportation Question

While the questions of prohibition, reduction of government expenditures and taxation are of as much importance to the owners of the securities of railroad companies, and railway equipment and supply manufacturing companies, and to the employees of these companies, as they are to other citizens, the transportation problem is of more direct importance to these citizens than any other issue in the present national political campaign and for all citizens, ranks in importance with other questions that are being much more discussed. The *Railway Age* is in no sense a political journal and has no more interest in purely partisan disputes between such men as Texas Garner and Senator Dickinson of Iowa, the recent "keynoter" of the Republican convention, than it has in disputes between Texas Guinan and the prohibition enforcement officers. The *Railway Age* has, however, in common with every owner of the securities of railroads and of railway equipment and supply manufacturing companies, and with every employee of these companies, an intense interest in the question as to what policies the national and state governments are going to follow in future in the regulation of the railways and as respects the regulation and subsidization of their competitors.

With the record what it is at the present time, there can be no doubt whatever as to the ticket and platform which should be regarded with the more favor by the millions of voters who desire to see the earning capacity of the railroads restored and the restoration thereby of their ability to give employment themselves and to so increase their purchases as to enable the many manufacturers from whom they buy to give increased employment. The Republican

platform unquestionably expresses the views of the Republican nominee for re-election, President Hoover, and the declaration we have already quoted from it says that, "the terms of competition fixed by public authorities should operate without discrimination so that all common carriers by rail, highway, air and water shall operate under conditions of equality." That is a policy which, in common fairness to the railroads, should be adopted, and which every employee and security owner of a railway company or a railway equipment and supply manufacturing company ought, in his own interest, to work and vote to get adopted. The Democratic national convention did not see fit to make any similar declaration, and nobody who can speak authoritatively for it has yet made any such declaration.

How Should Railway Employees Vote?

Excepting as regards the transportation question, there is little choice for those directly interested in the future of the railroad industry between the candidates and platforms of the Republican and Democratic parties. The action of the Republican convention in adopting the declaration of policy regarding the transportation problem that it did, and the failure of the Democratic convention even to refer to it, has therefore thus far given the Republican party and its candidate a claim upon the votes of those who want to see transportation policies adopted which will be fair to those directly and indirectly dependent upon the railroad industry, and in the interest of the public welfare, which the Democratic party and its candidates do not have. Year after year millions of the employees of the railways and of railway manufacturing companies, and especially of the railways, in complete disregard of their own interest, have been voting for men who have talked radicalism and who, having got elected largely by the votes of railway employees, have so effectively applied their radical views that, even in years of prosperity, railway traffic and earnings and the number of railway employees have declined, and at last, in a period of depression, conditions on the railroads have been made what they now are. Under such conditions, and at such a time, it would appear that railway employees, their families and everybody else who is directly dependent upon the railroad industry for a large part or all of his income, should support those candidates and only those candidates who will publicly and definitely pledge themselves to support those national and state government policies which will at least give the railways that equality of competitive conditions for which the Republican platform declares, but of which there is no mention in the Democratic platform.

If the Democratic party wants the votes of those who are directly and indirectly dependent upon the railroad industry for their employment and incomes, it should find some way of making that fact known before the election in as unequivocal terms as those used by the Republican party in its platform.

Too Many Railway Buildings

One of the outstanding achievements of the railways during the more than twelve years since their return to private operation has been the remarkable reductions which they have made in operating expenses, while at the same time raising the standards of their service. That there are still avenues for further economies, however, is indicated by an article published on page 5 of the *Railway Age* of July 2, entitled "D. & H. Has Abandoned 421 Buildings in 10 Years."

Practically every influence of late has tended toward the consolidation of facilities and the reduction in the number of buildings necessary for efficient railway service. The automobile has made it unnecessary for stations to be located as close together as in the days of horse-drawn vehicles, and dwindling passenger service on many branch lines has made stations and other structures almost or altogether unnecessary. Larger tenders and longer engine runs have increased the spacing of water and coaling stations, locomotive and car repair facilities, etc., and the lengthening of track sections on many roads has reduced the number of motor car and section tool houses heretofore necessary. In fact, many buildings of all sizes and character are now being rendered unnecessary.

During the last eight years the Delaware & Hudson has dismantled or otherwise disposed of 40 stations and 381 miscellaneous buildings, the latter including a wide range of structures, from box-car tool houses to shop buildings and enginehouses, in addition to a considerable number of such other structures as water tanks, stock pens and turntables. This reduction has saved the road approximately \$5,165 annually in painting expenses alone, which is only a fraction of the savings made in the way of repairs, heating, lighting, insurance, and the expenses of attendants.

Other roads have appreciated the economies to be realized through ridding their properties of unused or illy-used buildings and other structures, but in general, the surface has only been scratched. In an address in Kansas City, Mo., in March, 1930, L. F. Loree, president of the D. & H., stated that the Class I roads might tear down 70,000 of the 375,000 buildings on their properties and still have building room to spare, and, furthermore, that some 20,000 of the 90,000 stations on these roads could well be done away with. On the basis of these figures, the savings in painting alone, if these buildings were disposed of, should amount to more than \$1,000,000 annually.

That the savings from all angles, including the wages of attendants necessary at many of these buildings, would be far in excess of the amount stated for painting alone, is evident when it is realized that from 12 to 15 per cent of total maintenance of way and structures expenses are for stations, office and roadway buildings, water stations, fuel stations, shops, enginehouses and miscellaneous structures.

Motor Builders and Users Prepare Pro-Truck Program

Users of the highways for profit, dominated by the manufacturers who sell them their motor vehicles, are girding themselves for a gigantic campaign of politics and propaganda against adequate taxation and regulation of highway transportation. That seems to be the reasonable interpretation to be placed upon the announcement that last week in Washington, D. C., under the chairmanship of Alfred P. Sloan, Jr., grand nabob of the automotive industry, there was formed what was described in a press release as "an informal Highway Users' Conference." This body, it was said, is designed to serve as "a clearing house for the development of facts bearing upon this question." No definite information was given as to the persons or organizations joining in the conference other than that "some fifty national agricultural, industrial and private using groups" were represented.

The presence of representatives of farm organizations in such company bears witness to the persuasive powers of the organized motor vehicle manufacturers, for every effort exerted to avoid reasonable taxation and regulation of commercial vehicles is definitely against the interest of the farmers. The greatest difficulty the farmer has to face today is the necessity of paying greatly increased taxes with less than a pre-war income. A major item in this increase in taxes is the cost of the vast expansion of our highway system. It is true that the farmer uses the highways but he would gain far more by being relieved of land taxation for highway purposes than he would lose by paying his share of such costs in proportion as he uses the roads.

However, despite the injury to the farmers which would result if the truck interests' campaign were successful, the fact remains that, to all appearances, those who claim to represent agriculture are nevertheless encamped with the automotive manufacturers and users.

This is evidence of the prowess of these manufacturers in maneuvering public opinion and should serve to warn friends of the railways that their opponent is not one to be despised, in spite of the justice and reason which support the railway position. Some of the people, it seems, can be fooled at least some of the time. Only by the closest co-operation among all whose interests lie with the railways can the ruthless and efficient political agitation of highway transport supporters be successfully combatted. Railway employees particularly should inform themselves of the facts and be prepared at all times to demonstrate wherein inadequate taxation of heavy inter-city motor transport injures not only the railways and their employees, but the general taxpayers, the private motorists, the farmers, and home owners as well.



Underpass for 12-Mile Road Constructed to Accommodate Eight Lanes of Vehicle Traffic

Grand Trunk Builds Four-Track High-Speed Suburban Line

Project near Detroit includes reduction of grades, elimination of 86 crossings, landscaping of right of way and unique method of financing

THE complete relocation of nine miles of busy main line and the reduction of grades on an additional $2\frac{1}{4}$ miles; provision for four main tracks throughout the limits of the improvement; the construction of 19 grade-separation structures, the elimination of 67 other crossings by closing the streets and the construction of 17 street diversions; and especially the finished manner in which the work was done to bring it in harmony with the surroundings of the high-class suburban territory through which the line passes, are outstanding



Structure Built to Carry the Line Over First Street in Royal Oak

features of a construction project which has recently been completed by the Grand Trunk Western between Detroit, Mich., and Pontiac at a cost of \$7,000,000. Still other features of special interest include an unusually complete system of subsurface drainage in cuts; the architectural treatment of the grade-separation structures; a system of landscaping the right of way and adjacent grounds; and an unique method of financing, in which the state initially provided the right of way for the relocated line and advanced the funds for construction. This project involved unusually heavy grading for this section of the country, more than 1,500,000 cu. yd. of material having been moved, an average of approximately 140,000 cu. yd. to the mile.

Woodward avenue, one of the principal streets of

Detroit, extends northwest from the city as an important trunk highway. Between the city limits and Pontiac it passes through a highly-developed suburban territory as far as Birmingham, $18\frac{1}{2}$ miles from Detroit. Between Royal Oak, 13 miles from Detroit, and a point two miles north of Birmingham, the highway was parallel with and immediately adjacent to the main line of the Grand Trunk. Because of present congestion and a constantly increasing traffic, the state desired to widen the highway to 204 ft. To obtain the land necessary for this purpose, the state agreed to purchase the necessary right of way for a relocation of the Grand Trunk tracks and the railway agreed to make the relocation, which extends from mile post 13, immediately north of the station at Royal Oak, to mile post 22.1, about $3\frac{1}{2}$ miles north of Birmingham. From this latter point the line continues on the old location to Pontiac. Between the junction with the old line, however, and South boulevard, in the outskirts of Pontiac,



The Underpass for Northwood Boulevard

$2\frac{1}{4}$ miles, the grades were reduced from 1 per cent to 0.65 per cent, to conform with those on the remainder of the line.

Method of Financing

To finance the project, the state agreed, in addition to providing initially the right of way for the relocated line in exchange for the property occupied by the old line, to pay initially all costs of construction below subgrade

for a double-track line and the laying of a single track. On its part, the railway agreed to repay the sums thus advanced by the state in 15 equal annual installments without interest.

Double track extended from Detroit to Royal Oak, but the old line was single track from this point to Pontiac. Existing traffic was sufficient to justify double track north of Royal Oak, while the prospective traffic which will result from the ultimate development of the entire area to Pontiac into a high-class suburban residential district, made it desirable to provide for a minimum of four tracks. Accordingly, two tracks were provided for present operation and all of the grading, culverts and grade separation structures were completed for four tracks, the railway paying the cost of all work in excess of that required for two tracks.

As a part of the general plan for the development of this line, suburban service was inaugurated on August 1, 1931, the date the new line was placed in operation, and will be expanded as required. The old line was abandoned and the tracks removed, coincident with the opening of the diversion. The relocated line is 0.8 mile east of the old line and is 0.28 mile shorter.

As soon as traffic justifies, as it is expected to do in the near future, the additional tracks will be laid. Present plans also definitely contemplate the electrification of the line between Detroit and Pontiac as soon as this is economically feasible. In short, the intention is to develop this section of the road into a high-class passenger, as well as a freight, line which will be in keeping with the character of the district through which it passes.

Since practically the entire area between Detroit and Pontiac is subdivided and is already partially built up, the acquisition of the right of way presented many troublesome problems. Many of the subdivisions are highly restricted and the ownership of the lots is widely distributed in the hands of individuals. Because of the restrictions, it became necessary not only to obtain the fee to the property actually needed for right of way purposes, but also to obtain negative restrictive easements on much of the adjacent property.

As an indication of some of the difficulties encountered in this phase of the project, in Royal Oak alone 25 houses were removed to other locations. Again, the work on the diversion was started in May, 1928, but was delayed for more than a year by injunction proceedings, based on objections to the violation of these restrictive rights and on plans for closing streets or the location of subways.

Eighty-Six Out of 88 Grade Crossings Eliminated

As already mentioned, the greater part of the section traversed by the relocated line had been subdivided. As a consequence, 85 streets and 13 alleys were crossed, and in addition there were 3 grade crossings within the limits of the grade reduction section. Because of the large number of crossings and the relatively dense pres-

ent traffic, which is expected to increase materially in both volume and speed in the near future, the separation of grades became a matter of major importance. In carrying out the construction, all but two of these grade crossings were eliminated. This was accomplished by the construction of 15 subways and 4 viaducts, and by the closing of 67 streets and the 13 alleys. Seventeen marginal streets and other street diversions were constructed, one alley was diverted and two marginal pedestrian lanes were opened. Three new streets



The Structure at 14-Mile Road Accommodates Four Lanes of Highway Traffic

were opened at points where certain groups of streets that were to be closed could be better served in this manner and two of the subways and one viaduct are located at these new streets.

Design of Grade-Separation Structures

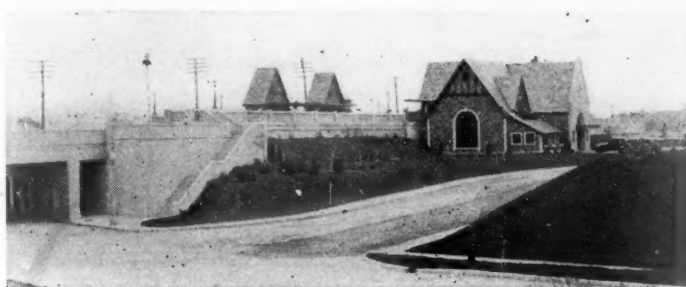
The design of the grade-separation structures constitutes one of the principal features of the construction. In general, the subways provide for two lanes of travel and two sidewalks. The roadway openings at 7 locations are 20 ft. and at 5 locations, 28 ft., and those for the sidewalks 7 ft. 9 in. At two of the less important crossings there is a single 28-ft. roadway opening, while at Oakwood boulevard in Royal Oak, four 28-ft. lanes were provided. The roadway on the viaducts is 30 ft. between curbs, outside of which are 5-ft. sidewalks. As stated, all grade-separation structures were built for four tracks.

Every effort was made to develop designs of pleasing appearance, so that considerable attention was paid to the architectural treatment. While simple, this treatment is in keeping with the purpose for which the structures are used. The piers are of the open arch type without ornamentation, except for a rather



Looking North from Station 180 — Part of the Old Line is Shown in the Fore-ground

The New Station at Birmingham, Mich.



deep coping. Parapets are provided on both subways and viaducts, and are broken by massive square balusters with recessed surfaces. The solid panels are also recessed to break the monotony of the plain surfaces, while the fascie of the floor slabs are recessed to give a paneled effect in harmony with those of the parapets.

All floor slabs on railway type structures are constructed of the new Carnegie CB-beams encased in concrete, except in one instance, at Benjamin avenue which is on a skew of about 30 deg., where built-up unit construction consisting of girders and floor beams encased in concrete were used. For the highway crossings, at Adams road in Birmingham the roadway of the viaduct, which is on a skew of 35 deg., is carried on 36-in. I-beams encased in concrete. The other two highway slabs are on reinforced-concrete beams. The standard under clearance for subways is 14 ft. and for viaducts 22 ft., although 15 ft. of headroom was provided at three subways.

Owing to the area of the subway or bridge decks, considerable surface drainage must be disposed of. For this purpose, three catch basins or sumps were located at subgrade level in the intertrack spaces immediately back of each abutment, and a line of 6-in. Armco perforated pipe was laid on the first bench of the backwall of the abutments, which in turn is connected by 6-in. Armco riser pipes into a concrete pipe laid at a lower level, through which the water is led to the sewer. The catch basins are directly connected to the Armco riser pipe and will function with the ballast frozen.

Grading Was Heavy

Owing to the generally flat country between Royal Oak and Birmingham, the tracks are carried on embankment continuously for more than five miles between these points. The height of this fill averaged about 14 ft., this being fixed by the elevation necessary to accommodate the numerous grade separation structures. While flat, the country rises rather sharply toward the north, requiring the introduction of maximum gradients of 0.65 per cent.

North of Birmingham the land continues to rise, but becomes more rolling. Cutting was necessary in this section, which also contains the largest fill on the project. This embankment, which is located about two miles north of Birmingham, is 6,500 ft. long and has a maximum height of 40 ft. There are three large cuts on the relocated line. The largest of these is 2,000 ft. long, more than 55 ft. deep and contained 430,000 cu. yd. in the normal section. The next in order of size involved the removal of 260,000 cu. yd., while 55,000 cu. yd. was taken from the third. On the grade-reduction section the greatest difference in elevation between the new and old subgrades was 24 ft.

Divided into Three Construction Zones

For purposes of construction the project was divided into three zones, the first of which extended south from M.P. 22.1, the end of the relocated line, approximately

three miles. In this zone the embankments totaled more than 710,000 cu. yd., while the excavation from the normal section of the cuts amounted to 530,000 cu. yd., and 78,000 cu. yd. was obtained in connection with grade separations. The fill in this zone thus exceeded the excavation by 100,000 cu. yd. A sink hole at the north end of this zone required more than 100,000 cu. yd. additional material to make the fill across.

Zone 2 extended $2\frac{1}{4}$ miles farther south and involved the removal of 290,000 cu. yd. from cuts and 46,000 cu. yd. from grade separations. The fills in this zone contained 300,000 cu. yd., or 36,000 cu. yd. less than the yardage from the normal sections of the cuts.

Zone 3 included the remainder to the south end of the relocated line and included borrow from the grade-reduction section north of M.P. 22.1, and required a total of 640,000 cu. yd. for the embankment, with no excavation except 110,000 cu. yd. from street excavation at the grade-separation structures. The yardage required in the embankments thus exceeded the normal excavation by 530,000 cu. yd. The excess material required was obtained from the grade-reduction section which extended north from M.P. 22.1 to South boulevard, Pontiac, where 365,000 cu. yd. was available after making the small fills which required approximately 40,000 cu. yd., and from excavation for a small yard development adjacent to the grade-reduction section at the north end, which serves the Yellow Cab & Coach Mfg. Co. The yard work was done by the railway under a separate contract.

The sides of the largest cut were terraced, two wide benches being left on each side of the cut to minimize the tendency to slide or slough.

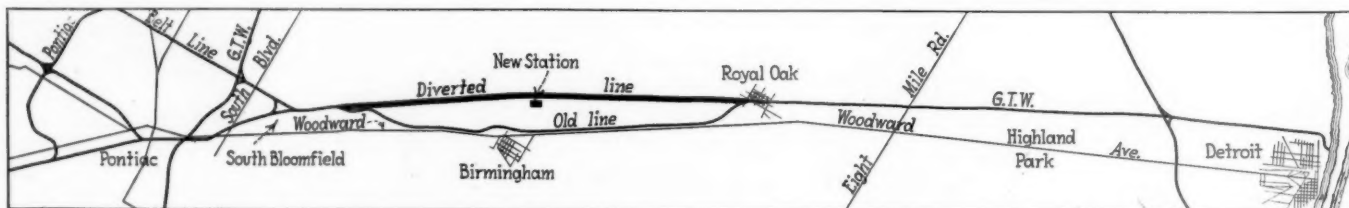
Both large and small power shovels and one drag-line excavator were employed in the grading. The material was loaded into 5-yd. and 12-yd. Western air-dump cars which were handled to the point of disposal by gas dinkys on narrow-gage track and steam locomotives on standard gage. The haul was relatively short in Zones 1 and 2, but averaged nine miles for Zone 3.

Two Sink Holes Encountered

In this locality, sink holes, bowl-like depressions of varying extent and depth, are quite common. They are filled with unstable material, known locally as muck, which is composed largely of partly decomposed organic matter. They may be open or they are sometimes so overlaid with earth that their presence is not disclosed by surface indications.

Immediately south of South boulevard there is a cut 9,200 ft. long, near the north end of which one of these sink holes, about 300 ft. long and 27 ft. deep, was encountered where the depth of the cut was about 3 ft. Having had experience with similar conditions on the Pontiac Belt Line, which was placed in service on May 17, 1931, it was decided to remove all of the muck. Accordingly, it was excavated and wasted and

(Continued on page 51)



Map Showing the Relation of the New Diverted Line to the General Route of the Grand Trunk Western Between Detroit, Mich., and Pontiac

Consolidated Car Work Yields Better Supply Methods

Mechanical handling and reduced stock are fruits of new arrangements on Burlington

By O. A. Schultz

Division Storekeeper, Chicago, Burlington & Quincy, Galesburg, Ill.

THE Chicago, Burlington & Quincy has recently consolidated all car-rebuilding work at its Havelock (Lincoln), Neb., shops, with savings for the supply as well as the mechanical department. Formerly, general repairs to locomotives were performed at three shops, Denver, Colo., West Burlington, Iowa, and Havelock, Neb. By arranging the work so that locomotive repairs for the system could be made at the shops at Denver and West Burlington, the Havelock shop became available for rebuilding box and stock cars for the system.

Supply Forces Do All Labor Work

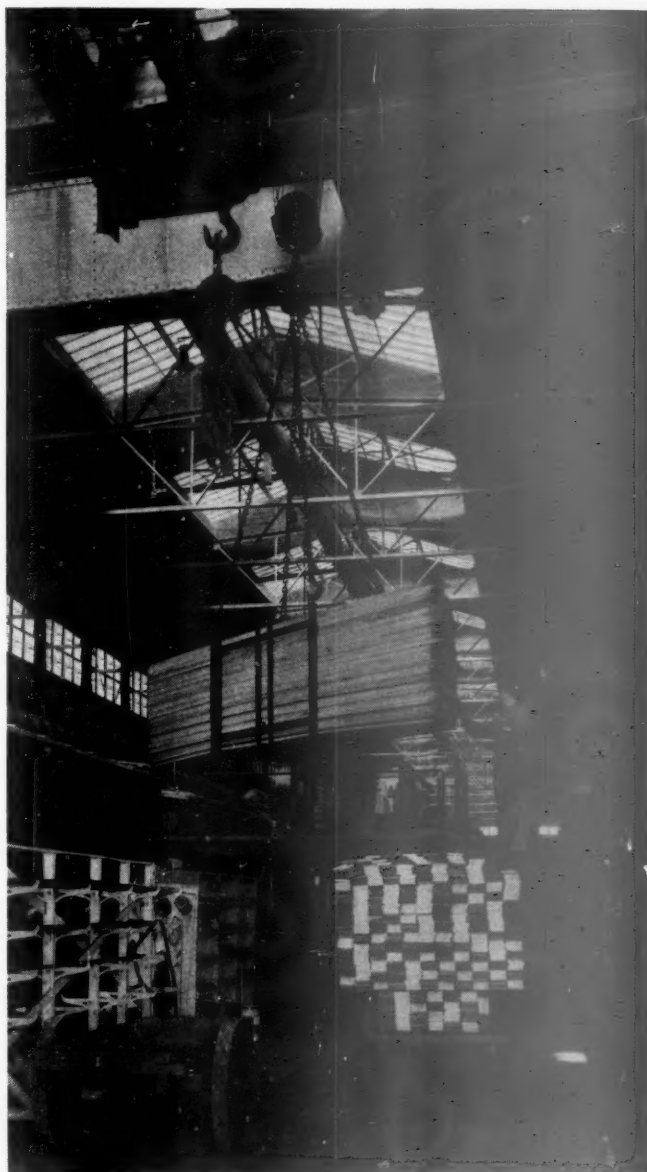
The consolidation permits the store department to order, unload, handle and deliver material with a smaller force than was required when the rebuilding was performed at five different locations. In addition to the transportation of materials in and between the shops, store forces also police the shop grounds, picking up and disposing of all the rubbish. Because of the volume of work handled, this too has been systematized, so that the work is done with fewer men than were required at five rebuilding points. This cleaning force is employed to the best advantage by working in conjunction with the men who deliver material. The consolidation also permits a reduction in the material carried by reducing the number of points at which complete stocks of supplies were carried from five to one.

Because of the volume of material handled, new material-handling methods can also be used to the best advantage. At the Havelock shop, lift trucks, tractors, trailers and overhead cranes are utilized, and special skids have been developed for the handling of certain materials, such as siding, lining, decking, etc.

All Material Ready Cut

All lumber products, including flooring, lining and siding, are framed and cut to size and delivered directly to the point of application. A saw mill equipped to finish rough stock, a two-compartment dry kiln and a dry shed in which seasoned lumber can be handled directly from cars to storage and from storage to skids facilitate this work. When delivered to destination, the flooring is put in the car and laid in place by the delivery men, ready for application and nailing by the car mechanic. The siding is cut to length and placed against the car where the mechanic can readily apply it without having to carry it to the car and cut it.

An overhead platform has been erected for roofing



Container Methods Feature Car Work at Havelock

and such parts as running-board saddles and extensions. The delivery men place this material on the platform opposite the car, in station order. The platform also provides a convenient place for mechanics to work when applying this material. This eliminates all the scaffolding and ladders previously used for this work.

Containers Save Handling

Because the quantities of material used warrant shipping it in containers from the general store, the store can move it directly to the shop and thus save rehandling later. Such items as car brass, hand holds, sill steps, column bolts and truck bolts are moved from the general store in containers and, where possible, the containers are taken directly to the station where mate-

rial is applied to cars. Material needing repairs and scrap material are also moved out of the shop in containers and loaded immediately without extra handling.

Car Output Increased

The consolidation at Havelock has afforded the means of increasing greatly the output of cars. All cars move on a progressive scale, certain work being done at specified stations. This results in specializing certain work. For example, at the truck station, the men become more familiar with the work and are, therefore, able to rebuild more trucks than were rebuilt at the five points where the work was handled



Making Flooring
from Rough
Stock Received
from Yard on
Trailers



Flooring Direct
from Shaper
to Car by
Conveyor for
Haul to
Shops



From Car
to Dry Storage
for Loading on
Trailers as
Required



Ready-Cut
Lumber
Delivered to
Proper Station
and Placed
for Nailing
by Stores
Labor

Car Shop,
Showing
Rear
Platform
for
Roofing
and
Containers
for
Materials



Containers being Handled by Lift Trucks for Delivery
to the Shops

previously, or the same number of trucks can be rebuilt with fewer men than previously. The men, likewise, become more familiar with the body work of the car, the application of roofs, etc.

The specialized work also permits the use of tools which would not be justified where the volume of work was smaller. Special drills are used on certain parts of the car. Acetylene cutting becomes a specialized job by permitting a man to work at it constantly.

The station order of repairing cars is ideal from the standpoint of material delivery, for the storemen put the material when it is brought into the shop, exactly where it is going to be applied by the mechanic, thus not only eliminating a second handling but also saving possible delays to the mechanic later when he wishes to apply the material.

The consolidation has been in effect only a few months, but its possibilities have already been demonstrated. As the work continues, and the men, as well as the supervisors, become more experienced with it, greater economies will be effected.

THE PENNSYLVANIA RAILROAD Y. M. C. A. building at Camden, N. J., was destroyed by fire on June 24, with an estimated loss of \$150,000. The fire, for which three alarms were turned in, delayed hundreds of commuters on their way from Philadelphia to South Jersey towns, and at one time threatened to destroy the old home of Walt Whitman, the poet.



Railway Salaries Generally Reduced

I. C. C. classifies payments to upper tenth of official list—172 over \$25,000

WASHINGTON, D. C.

THIRTY THOUSAND DOLLARS was the average (median) annual salary as of March, 1932, of the 83 presidents (or receivers) of Class I railways remaining in office at that time of a list of those paid \$10,000 a year or more in December, 1929, plus new positions, according to a compilation made by the Interstate Commerce Commission of railway salaries of the two dates which has been printed as Senate Document No. 129 on motion of Senator Couzens. Only 172 officials of Class I roads in March were being paid at the rate of \$25,000 a year or more and the number has been reduced since March. The number still being paid at the rate of \$10,000 a year or more was 1,007.

The salaries of the presidents or receivers ranged, as of March, from \$9,000 to \$135,000, after they had been subjected to various reductions since 1929. In most instances the reduction was 10 per cent but they ranged up to 66⅔ per cent. Twenty-seven chairmen of the board or executive committee had an average (median) of \$24,300 and showed the same range from highest to lowest.

Some of the higher of these salaries were cited by Senator Couzens in a speech in the Senate on June 27, on the commission's valuation appropriation, after the salary compilation had been furnished him at his request by Commissioner Eastman, but the Senator failed to emphasize the extent of the reductions that have been made since 1929 or to call attention to the small number of those receiving the higher salaries. He appeared satisfied to point to even the reduced figures and to the number on various roads that were paid as much or more than a member of Congress.

The commission's tabulation, which was not made public until after the Senate had ordered it printed, classifies and analyzes the 1,344 positions paying \$10,000 or more, showing that they "relate to less than the upper tenth" of the 14,230 officials employed by Class I railways in March.

Three railway executives were receiving \$135,000 a year as of March, having been reduced from \$150,000, but the salary of W. W. Atterbury, president of the Pennsylvania, was again reduced to \$121,500 on April 1. The other two are Hale Holden, chairman of the executive committee of the Southern Pacific, and L. F. Loree, president of the Delaware & Hudson, (\$90,000) and chairman of the board of the Kansas City Southern (\$45,000).

There was also one salary of \$120,000 (Daniel Willard, president of the Baltimore & Ohio), which had been reduced from \$150,000 on May 1, 1931, and one of \$105,167 (L. W. Baldwin), the combined salary of president of the Missouri Pacific, Gulf Coast Lines, International-Great Northern, and of chairman of the board of the Denver & Rio Grande Western, which had been reduced from \$125,000 and was again reduced on May 1 to \$98,167.

Railways Reduced Salaries Before Congress Did

There were 39 salaries in all above \$50,000, while the number under \$10,000 was 336 and the number over \$25,000 was only 172. All but 114 of the \$10,000 or greater salaries as of 1929 had been reduced by March

of this year, whereas Congress did not make its own 10 per cent cut until July 1.

The information was gathered by the commission under an order addressed by Division 4 to the presidents of the Class I roads on April 23, returnable under oath by May 23, following some criticism in Congress of loans made by the Reconstruction Finance Corporation to banks and railroads paying "large" salaries, and after the commission had had many requests for data on the subject. The order asked for a list of the positions, without names, paying \$10,000 or more in December, 1929, and the salaries paid for the same positions in March, 1932, to show the reductions. Therefore some on the list are now paid less than that amount. If one person held two or more positions the combined salary was to be shown in a footnote.

The commission's analysis of the returns includes the following:

Ten Per Cent Reduction General

A reduction of 10 per cent has been general, with a substantial number of reductions over 10 per cent, and a relatively small number of increases and reductions less than 10 per cent, as shown by the following table:

Salary change, 1929-1932:	Number of Persons Affected
Increases	89
No change	25
Decreases—	
Under 10 per cent.....	45
Exactly 10 per cent.....	796
Over 10 per cent but under 20 per cent each.....	142
Exactly 20 per cent.....	36
Over 20 per cent.....	95
Subtotal	1,228
New positions, 1932.....	116
Total tabulated	1,344

Some reductions were made after March, 1932, which are not included in these tabulations.

It is important to note that the tables below cover only the salaries of the positions paying \$10,000 or more in 1929 but classified on the basis of the annual rate as of March, 1932. From the regular monthly wage statistics, it appears that in March, 1932, there were 7,094 executives, general officers and assistants, and 7,136 division officers employed by Class I railways, the average salary of the first group being \$570 per month and of the second group \$319 per month, or \$6,840 and \$3,828 per year, respectively. The average salaries given below thus relate to less than the upper tenth of the railway officials.

The following table shows the 1,344 positions or combinations of positions reported for March, 1932, arranged in groups, with the number of positions and the average, maximum and minimum annual salaries shown for each group. The average salary given is the median—that is, the salary above which and below which the number of positions is equal. The reports for 20 Class I railway companies indicated that no salaries as high as \$10,000 were being paid.

Group	Number of Positions in Group	Average Annual Salary as of March, 1932	Highest Salary in Group	Lowest Salary in Group
CHIEF EXECUTIVE OFFICERS				
Chairman of board or executive committee	27	\$24,300	\$135,000	\$9,000
President or receiver.....	83	30,000	135,000	9,000
Vice-President	80	21,375	76,500	5,400
Other executive officers not elsewhere classifiable....	46	15,300	80,000	5,000
Chief operating officer *....	65	18,000	54,000	5,900
Chief traffic officer *....	41	18,000	45,000	9,000
Chief accounting or financial officer *	42	14,900	45,000	7,740
Chief legal officer.....	61	20,400	45,000	1,200
Chief purchasing officer *..	6	22,937	36,000	18,000
Secretary and/or treasurer *	50	12,600	22,500	7,500

* Regardless of whether vice-president or not.

Group	Number of Positions in Group	Average Annual Salary as of March, 1932	Highest Salary in Group	Lowest Salary in Group
GENERAL OFFICERS AND ASSISTANT GENERAL OFFICERS BELOW THE CHIEF EXECUTIVE OFFICER				
General operation	98	\$12,600	\$27,000	\$7,800
Transportation	17	10,800	20,250	5,130
Maintenance of equipment..	46	10,800	29,700	7,800
Engineering, maintenance of way, and telegraph, telephone, and signals.....	82	10,800	22,500	7,200
Accounting	40	10,800	18,000	8,100
Treasury (including assistant secretaries)	16	10,350	18,000	8,333
Law	210	12,000	41,220	5,000
Purchasing and stores....	32	9,920	24,750	7,200
Real estate, taxes and insurance	16	10,750	19,350	7,200
Traffic	161	10,800	25,000	6,750
Not elsewhere classifiable..	22	9,950	22,500	4,500
Division officers	30	10,800	15,750	9,000
Assistants to any officer...	73	10,800	27,000	5,000
Total	1,344			

From this table it appears that of the railway presidents (or receivers) 83 is the total number of those who received \$10,000 or more in 1929 plus the number of new positions of this class since that time, minus the number of such positions abolished since 1929. The salaries of the 83 presidents (or receivers) in 1932 ranged from \$9,000 to \$135,000, and the average (median) salary was \$30,000. The other groups in this table are to be interpreted in a similar manner. It is of interest to note that 473 of the 1,344 officials tabulated, or over 35 per cent, are in the traffic and legal groups.

As indicated by footnote, some of the groups combine some vice-presidential positions with other positions. As it may be desirable to know what vice-presidents as a class get, these have been separately assembled. The total number of vice-presidents reported is 227, the average (median) salary, \$21,500, the highest, \$76,500, and the lowest, \$5,000.

The 1,344 positions have also been classified by salary groups as follows:

Salary groups as of March, 1932:	Number of Persons
Under \$10,000	336
\$10,000 to \$11,999	290
12,000 to 14,999	231
15,000 to 19,999	203
20,000 to 24,999	111
25,000 to 29,999	55
30,000 to 34,999	35
35,000 to 39,999	19
40,000 to 49,999	24
50,000 to 59,999	9
60,000 to 69,999	14
70,000 to 79,999	4
80,000 to 89,999	2
90,000 to 99,999	5
105,167	1
120,000	1
135,000	3*
	1,343

* Includes one case of a combination of salaries of two positions held by the same person in separate operating companies, according to latest Official Guide, but not so noted in the returns. One \$135,000 position was reduced to \$121,500 on April 1, 1932.

One hundred and eighty-two of the \$10,000 positions have been abolished since 1929 or were not filled in 1932. On the basis of the 1929 salary these included 1 under \$10,000, 92 between \$10,000 and \$15,000, 34 between \$15,000 and \$20,000, 33 between \$20,000 and \$30,000, 5 between \$30,000 and \$40,000, 9 between \$40,000 and \$50,000, and 9 of \$50,000 and over.

Ratio of Official Salaries to Total Payroll

"Salaries of railway officials vary with the size of the railway served," the report says. "To compare the railways from the standpoint of relative burden for salaries of officials, the entire expenditure for the official salaries of all grades should be compared with the total payroll." This has been done in a table on the basis of the regular annual wage statistics, taking the year 1930 because of the abnormally low employment of 1931. The ratio of the amount of salaries of executive, general, and division officers to the total payroll ranges from 0.29 per cent for the Canadian National Lines in New England and 0.44 per cent for the Canadian Pacific lines in Maine and Vermont, most of whose official organization was not included in the compilation, up to 14.28 per cent for the Pittsburgh & West Virginia. For

the Pennsylvania, which had the largest payroll, it was 2.9 per cent and for most of the larger roads it was 3, 4 or 5 per cent. The Pennsylvania, which had a payroll of \$305,311,007, although it paid some of the biggest salaries, showed the smallest percentage for official salaries of the larger systems. The New York Central had the second largest payroll, \$272,063,119, and a ratio of 3.25, both it and the Pennsylvania having twice as large a payroll as either of the next two on the list, the Baltimore & Ohio System with \$129,214,436 and a ratio of 4.43, and the Santa Fe System, \$101,409,407 and 3.23. The L. & N. had a ratio of 2.24 and the C. & N. W. a ratio of 2.88. There is a general upward trend in the ratio as the size of the railway diminishes.

The averages stated in the report for general and division officers would indicate that the total managerial payroll for a year in March was at the rate of \$75,-839,568, including \$48,522,960 for general officers, etc., and \$27,316,608 for division officials. This would be about 3.5 per cent of the 1931 payroll, which was \$2,-127,181,287, and about 3 per cent of the 1930 payroll, which was \$2,590,274,843. The 1932 payroll will naturally be lower.

Executive Salaries Above the Average

The salaries of chairmen, presidents, receivers, vice-presidents, other chief executive officers, and chief operating officers, paid more than the average were listed as follows: (Names as of March, 1932, supplied by editors and 1929 salary of the position added from other pages of the report.)

	CHIEF EXECUTIVE OFFICERS	
	March, 1932	December, 1929
Chairman executive committee, Southern Pacific System (Hale Holden).....	\$135,000	\$150,000
Chairman and president, Missouri-Kansas-Texas and M-K-T of Texas (M. H. Cahill) (1929 figure includes \$50,000 for president and \$50,000 for chairman)	65,000	100,000
Chairman board of directors, Kansas City Southern and Texarkana & Fort Smith (L. F. Loree)	45,000	50,000
Chairman executive committee, Chicago, Rock Island & Pacific and Chicago, Rock Island & Gulf (E. N. Brown).....	40,000	50,000
Chairman of board and president, Wheeling & Lake Erie Ry. (W. M. Duncan).....	36,000	50,000
Chairman of board, Union Pacific System (R. S. Lovett)	36,000	40,000
Chairman of board and chairman of executive committee, St. Louis-San Francisco System (E. N. Brown).....	36,000	45,000
Chairman executive committee, Union Pacific System (C. B. Seger).....	36,000	40,000
Chairman of board, Atlantic Coast Line Railroad (Lyman Delano)	36,000	.....
Chairman executive committee, Western Pacific Railroad (T. M. Schumacher).....	27,000	30,000
Chairman of board, New York, New Haven & Hartford Railroad and subsidiary companies (E. G. Buckland).....	25,000	75,000
Chairman of board, Boston & Maine R. R. (T. N. Perkins)	25,000	.....
Chairman of board, Cambria & Indiana R. R. (J. H. Weaver)	25,000	25,000
President, Pennsylvania System (W. W. Atterbury)	135,000	150,000
President, Baltimore & Ohio System (Daniel Willard)	120,000	125,000
President, Missouri Pacific System (L. W. Baldwin)	105,167	125,000
President, Illinois Central System (L. A. Downs)	90,000	100,000
President, Union Pacific System (C. R. Gray)	90,000	100,000
President, Delaware & Hudson R. R. Corporation (L. F. Loree).....	90,000	100,000
President, Chesapeake & Ohio System (J. J. Bernet)	90,000	100,000

	March, 1932	December, 1929		March, 1932	December, 1929
President, Southern Pacific System (Paul Shoup)	\$90,000	\$100,000	System, (W. J. Harahan)	\$43,200	\$75,000
President, New York, New Haven & Hartford R. R. and subsidiary companies (J. J. Pelley)	90,000	75,000	Executive vice-president, Chicago, Burlington & Quincy System, (E. P. Bracken) ..	42,500	50,000
President, New York Central System (F. E. Williamson)	80,000	100,000	Vice-president, Atchison, Topeka & Santa Fe System, (E. V. Engel)	40,500	40,000
President, Chicago, Burlington & Quincy System (Ralph Budd)	75,000	75,000	Executive vice-president, New York Central System, (R. D. Starbuck)	40,000	.....
President, Lehigh Valley R. R. (E. E. Loomis)	72,000	80,000	Executive vice-president, Missouri Pacific System, (H. R. Safford)	37,503	45,000
President, Southern Railway System (Fairfax Harrison)	67,500	100,000	Executive vice-president, Southern Pacific System and Texas & New Orleans R. R. (H. M. Lull)	36,000	40,000
President, Erie System (C. E. Denney)	67,500	75,000	Vice-president, Reading Co. and Atlantic City R. R. (C. H. Ewing)	36,000	40,000
President, Delaware, Lackawanna & Western R. R. (J. M. Davis)	67,500	75,000	Vice-president, Southern Ry. System (H. B. Miller)	36,000	40,000
President, Chicago, Milwaukee, St. Paul & Pacific R. R. (H. A. Scandrett)	67,500	75,000	Vice-president, Atchison, Topeka & Santa Fe System (F. B. Houghton)	33,750	33,000
President, Atchison, Topeka & Santa Fe System (W. B. Storey)	67,500	75,000	Executive vice-president, Lehigh Valley R. R. (C. E. Hildum)	32,400	33,000
President, Norfolk & Western Ry. (A. C. Needles)	67,500	75,000	Senior vice-president, Illinois Central System, (J. L. Beven)	31,500	35,000
President, Reading Co. and Atlantic City R. R. (A. T. Dice, deceased)	67,500	75,000	Vice-president, western region, Pennsylvania System, (H. E. Newcomet)	31,500	35,000
President, Central R. R. of New Jersey (R. B. White)	64,800	60,000	Vice-president, central region, Pennsylvania System (J. F. Deasy)	31,500	35,000
President, St. Louis-San Francisco System (J. M. Kurn)	63,800	70,000	Vice-president, eastern region, Pennsylvania System, (C. S. Krick)	31,500	35,000
President, Chicago & North Western Ry. and Chicago, St. Paul, Minneapolis & Omaha Ry. (F. W. Sargent)	61,000	75,000	Vice-president, New York zone, Pennsylvania System, (G. Le Boutillier)	31,500	35,000
President, Great Northern Ry. (W. P. Kenney)	60,000	90,000	Vice-president, Chicago, Pennsylvania System (T. B. Hamilton)	31,500	35,000
President, New York, Chicago & St. Louis R. R. (W. L. Ross)	60,000	75,000	Executive vice-president, Missouri-Kansas-Texas and Missouri-Kansas-Texas of Texas (H. E. McGee)	28,000	.....
President, Chicago, Rock Island & Pacific Ry. and Chicago, Rock Island & Gulf Ry. (J. E. Gorman)	57,750	66,000	Vice-president, New England, Boston, Pennsylvania System, (G. D. Ogden)	27,500	.....
President, Denver & Rio Grande Western Ry. (J. S. Pyeatt)	54,000	60,000	Vice-president, New York, Chicago & St. Louis R. R.	27,000	30,000
President, Texas & Pacific Ry. (J. L. Lancaster)	50,000	75,000	Vice-president, Chesapeake & Ohio System	27,000	30,000
President, Northern Pacific Ry. (Charles Donnelly)	50,000	60,000	Vice-president, Southern Pacific System (W. A. Worthington)	27,000	30,000
President, Minneapolis, St. Paul & Sault Ste. Marie Ry. (C. T. Jaffray)	45,000	50,000	Executive vice-president, New York, New Haven & Hartford R. R. and subsidiary companies (A. P. Russell)	27,000	45,000
President, Louisville & Nashville R. R. (W. R. Cole)	45,000	50,000	Vice-president, Northern Pacific Ry. (B. W. Scandrett)	25,500	30,000
President, Chicago & Eastern Illinois Ry. (C. T. O'Neal)	45,000	50,000	Vice-president, Northern Pacific Ry. (W. E. Coman)	25,500	30,000
President, Boston & Maine R. R. (E. S. French)	45,000	50,000	Vice-president, Chicago River & Indiana and Indiana Harbor Belt, New York Central System, (T. W. Evans)	25,500	.....
President, Bangor & Aroostook R. R. (Percy R. Todd)	45,000	50,000	Vice-president, Atchison, Topeka & Santa Fe System, (A. G. Wells)	24,750	22,500
President, St. Louis Southwestern System (Daniel Upthegrove)	45,000	50,000	Resident vice-president, New York Central Lines, New York Central System (H. A. Worcester)	23,575	.....
Receiver, Wabash System (W. S. Franklin)	45,000	.....	Vice-president, New York, New York Central System (W. J. Fripp)	23,575	25,000
Receiver, Seaboard Air Line Ry. (L. R. Powell, Jr.)	45,000	.....	Vice-president, Illinois Central System, (G. E. Patterson)	22,500	25,000
President, Chicago Great Western R. R. (P. H. Joyce)	40,500	50,000	Vice-president, Illinois Central System, (C. C. Cameron)	22,500	25,000
(temporarily reduced 10 per cent Oct. 1, and 10 per cent Feb. 1)			Executive vice-president, Atlantic Coast Line R. R. (L. Delano)	22,500	25,000
President, Virginian Ry. (C. H. Hix)	38,250	42,500	Vice-president, Delaware & Hudson Railroad Corp. (F. W. Leamy)	22,500	25,000
President, Kansas City Southern and Texas & Fort Smith (C. E. Johnston) ..	33,300	35,000	Vice-president, assistant to president, Union Pacific System (J. L. Haugh)	22,500	25,000
President, Maine Central R. R. (Morris McDonald)	31,500	35,000	Vice-president, executive, Seattle, Great Northern Ry. (L. C. Gilman)	21,500	25,000
President and general counsel, Western Maryland Ry. (G. P. Bagby)	30,000	.....		
Senior vice-president, Baltimore & Ohio System, (G. M. Shriver)	76,500	75,000	OTHER CHIEF EXECUTIVE OFFICERS NOT ELSEWHERE CLASSIFIED		
VICE-PRESIDENTS			Special (former president) New York Central System, (P. E. Crowley)	\$80,000	.....
Vice-president, Midland Valley, Kansas, Oklahoma & Gulf, Oklahoma City-Atoka (A. W. Lefebvre)	\$65,000	\$65,000	Vice-chairman, executive committee, Southern Pacific System, (A. D. McDonald) ..	76,500	\$85,000
Vice-president, Pennsylvania System (Elisha Lee)	58,500	65,000	Vice-chairman, executive committee, Union Pacific, (F. W. Charske)	54,000	50,000
Vice-president, Baltimore & Ohio System (W. T. Noonan)	54,000	60,000	Vice-president, real estate, valuation and taxation, Pennsylvania system, (T. W. Hulme)	36,000	40,000
Senior vice-president, Missouri Pacific System, (E. M. Durham, Jr.)	46,667	50,000	Vice-president, personnel, Pennsylvania System, (R. V. Massey)	31,500	35,000
Vice-president, Baltimore & Ohio System, (H. B. Voorhees)	45,000	30,000	Vice-president, corporate relations, New York, Chicago & St. Louis R. R. (W. A. Colston)	31,500	35,000
Senior vice-president, Chesapeake & Ohio					

	March, 1932	December, 1929		March, 1932	December, 1929
Corporate advisor (Alton R. R.) Baltimore & Ohio System	\$28,400	.....	Vice-president and general manager, Minneapolis, St. Paul & Sault Ste. Marie Ry. (A. E. Wallace)	\$22,500	\$25,000
Vice-president, improvements and developments, New York Central System, (R. E. Dougherty)	25,500	.....	Third vice-president, operation, St. Louis-San Francisco System, (H. L. Worman) ..	21,850	27,500
Vice-president, personnel, New York Central System, (J. G. Walber)	22,525	\$26,500	Operating vice-president, Lehigh Valley R. R. (G. H. Foster)	21,600	21,000
Fifth vice-president, assistant to chairman and secretary board of directors, St. Louis-San Francisco System	22,500	25,000	Vice-president, maintenance and operation, Chicago & North Western, Chicago & North Western Ry.; Chicago, St. Paul, Minneapolis & Omaha Ry. (F. Walters)	21,600	27,000
Vice-president, industrial, New York, Chicago & St. Louis R. R. (H. H. Hampton)	22,500	25,000	Vice-president, operating department, Chicago, Burlington & Quincy System, (E. Flynn)	21,500	30,000
President, retired, Erie System, (F. D. Underwood)	22,500	.....	Vice-president and general manager (Cleveland, Cincinnati, Chicago & St. Louis) New York Central System (C. S. Millard)	21,250	.....
Vice-president, valuation, real estate, etc., Norfolk & Western Ry. (W. S. Battle, Jr.)	20,250	22,500	Vice-president, operation, St. Louis-Southwestern System, (F. W. Green)	18,900	21,000
Assistant vice-president, Detroit, Pennsylvania System	20,250	.....	Largest Salaries By Groups		
Assistant vice-president, Chesapeake & Ohio System (W. G. Black)	19,800	.....	The largest salaries shown for each of the other groups were as follows:		
Vice-president and advisory counsel, Erie System, (G. F. Brownell)	18,000	.....	Vice-president, traffic, Pennsylvania System, (J. L. Eysmans)	\$45,000	\$50,000
Chairman finance committee, Erie System (Grenville Kane)	18,000	20,000	Vice-president, finance and corporate relations, Pennsylvania System (A. J. County)	45,000	50,000
Vice-president and assistant secretary, Chicago & North Western Ry., Chicago, St. Paul, Minneapolis & Omaha Ry. (A. S. Pierce)	16,500	20,000	General counsel, Santa Fe System, (S. T. Bledsoe)	45,000	45,000
Assistant vice-president, finance and corporate relations, New York Central System	16,200	18,000	General counsel, Southern Pacific System, (B. C. Dey)	45,000	55,000
Vice-president, rates and divisions, Chicago & Northwestern, Chicago & North Western Ry., Chicago, St. Paul, Minneapolis & Omaha Ry. (A. F. Cleveland)	16,000	20,000	Vice-president, purchases, stores, and insurance, Pennsylvania System, (M. C. Kennedy)	36,000	40,000
Assistant vice-president, Buffalo, New York Central System	15,750	.....	Vice-president and secretary, Southern Pacific System, (Hugh Neill)	22,500	25,000
Assistant vice-president, Erie System	15,300	17,000	Vice-president, secretary and treasurer, Rock Island System, (C. Nyquist)	22,500	25,000
Chief Operating Officers			Assistant vice-president, purchases, stores and insurance and general purchasing agent, Pennsylvania System, (C. D. Young)	24,750	.....
Vice-president, operation, Pennsylvania System (M. W. Clement)	\$54,000	\$60,000	Manager insurance department, Pennsylvania System, (R. H. Newbern)	19,350	21,500
Vice-president, operation, Baltimore & Ohio System (C. W. Galloway)	54,000	60,000	General traffic manager, Missouri-Kansas-Texas and M-K-T of Texas, (G. C. Smith)	25,000	.....
Vice-president and general manager, Wheeling & Lake Erie Ry. (G. Durham)	40,000	50,000	Chief surgeon, Southern Pacific System, (W. B. Coffey)	22,500	25,000
Vice-president, operation, Norfolk & Western Ry. (W. J. Jenks)	33,750	37,500	General manager, east, Baltimore & Ohio System, (E. W. Scheer)	27,000	30,000
Vice-president, operating department, Great Northern Ry. (C. O. Jenks)	33,500	40,000	Chief of freight transportation, Pennsylvania System (J. R. Downes)	20,250	20,000
Vice-president, operation, Chesapeake & Ohio System*	32,400	36,000	Chief of motive power, Baltimore & Ohio System, (G. H. Emerson)	29,700	30,000
Vice-president and general manager, Chesapeake & Ohio System (G. D. Brooke) ...	32,400	.....	Chief engineer, Pennsylvania System, (J. K. Skillman)	22,500	25,000
Vice-president, operating department, Chicago, Milwaukee, St. Paul & Pacific R. R. (J. T. Gillick)	31,500	35,000	Comptroller, New York Central, (L. V. Porter)	18,000	25,000
Vice-president, operation, Union Pacific System, (W. M. Jeffers)	31,500	35,000	Treasurer, New York Central, (H. G. Schnelling)	18,000	20,000
Vice-president in charge of operations, Southern Pacific System (J. H. Dyer) ...	31,500	35,000	General counsel, Texas, Southern Pacific System,	41,220	45,800
Vice-president and general manager, Delaware, Lackawanna & Western R. R. (E. M. Rine)	31,500	35,000	General superintendent, Eastern Pennsylvania division, Pennsylvania System (H. H. Garrigues)	15,750	17,500
Vice-president and general manager, Delaware & Hudson R. R. Corporation (J. T. Loree)	31,500	35,000	Assistant to president, Chesapeake & Ohio, and vice-president, Pere Marquette (L. C. Probert)	27,000	25,000
Vice-president, operation, Chicago, Rock Island & Pacific Ry. Co., Chicago, Rock Island & Gulf Ry. (L. C. Fritch)	31,500	35,000			
Vice-president, operation, Erie System (R. E. Woodruff)	27,000	30,000			
Vice-president, operation and maintenance, Chesapeake & Ohio System*	27,000	30,000			
Vice-president and general manager, Missouri Pacific System (J. Cannon)	25,000	30,000			
Vice-president and general manager, New York, New Haven & Hartford R. R. and subsidiary companies	24,300	27,000			
Vice-president and general manager, Michigan Central R. R., New York Central System, (H. Shearer)	23,550	.....		
Vice-president, operation, Louisville & Nashville R. R. (T. E. Brooks)	22,500	.....		
Chief operating officer, Wabash Ry. System, (S. E. Cotter)	22,500	.....		

* Apparent duplications due to change in organization.

In some instances increases in the salaries of individual officers were made after December, 1929, as explained in footnotes, after their jurisdiction had been extended over additional properties, or by combining in one position duties formerly performed by two officers, thus effecting a saving as compared with the former total. For example the \$65,000 salary shown in the table for chairman and president of the M-K-T system takes the place of two \$50,000 salaries formerly paid. On December 1, 1929, the positions of chairman of the board of the A. C. L., and chairman of the board of the L. & N. and executive vice-president of the A. C. L. were held by two individuals at an aggregate

gate salary of \$47,800. On March 1 these three positions were held by one individual at an aggregate salary of \$36,000. On the New Haven, the salaries of the chairman and executive vice-presidents were reduced and that of the president was increased. On the Missouri Pacific an additional reduction was made on May 1 and on the Pennsylvania an additional 10 per cent reduction was made April 1. On the Baltimore & Ohio some salaries had been increased above the 1929 figures after the acquisition of additional properties but were later reduced. The president's salary was

reduced 20 per cent on May 1, 1931, and all others 10 per cent on November 1. On the Chicago Great Western the salaries listed were subjected to temporary 10 per cent reductions on October 1 and February 1.

In a few cases the names of the positions were not stated with sufficient definiteness either in the returns or in published lists of railway officials to identify the names, and in many cases the salary listed as of March was paid to an individual who did not hold the corresponding position in 1929 or to one who held approximately the same position but with a different title.

A. R. A. Considers Adoption of All-Steel Box Car

Entirely new design of steel-sheathed wood-lined car for generally unrestricted interchange service proposed to the Mechanical Division by its Car Construction Committee

THE Car Construction Committee of the Mechanical Division, American Railway Association, presented a complete new design for a steel-sheathed wood-lined box car suitable for generally unrestricted interchange service at the meeting of the Division held at Chicago June 23-24. This design represents a marked departure from that presented to the Mechanical Division in 1923 and in several respects departs from the recommended practice and existing fundamentals of the association. The inside dimensions are 40 ft. 6 in. long by 8 ft. 9½ in. wide and 9 ft. 4 in. high. The 1923 design of this type of car was the same in length and width, but the height was limited to 8 ft. 7¾ in.

The 1923 design was never adopted because of disagreement on general dimensions, and no further consideration was given to it until in 1929 the Car Construction Committee was again assigned to undertake the development of a standard-practice car of this type. Since that time the limiting clearance outline has been thoroughly rechecked and at this year's meeting the committee presented a complete design developed in co-operation with the engineers of the car builders under a plan representing a redefinition of standardization and a re-appraisal of its purposes.

The purpose of the committee was "to produce a design representing the latest state of the art with reference to weight, cost, construction, strength and general utility so that when completed it would be too attractive for railroads to disregard and would be of such character that any road might properly and consistently adopt the design as standard and construct its future cars thereto." In comparison with the 1923 design, using 50-ton trucks in each case, a calculated saving in weight of 2,950 lb.* has been effected, with a corresponding increase in the load-limit capacity and an increase in clear lading space, due to the increased height, of 266 cu. ft. It represents the largest inside width and height which can be built and freely interchanged without restrictions of consequence.

* In the reference to the report on the proposed box-car design which appeared on page 1083 of the June 25, 1932, issue, the saving in weight of the proposed design as compared with the 1923 design was erroneously stated as 2,340 lb.

The principles of the plan on which it proceeded in the development of the new design are stated by the committee as follows:

(a) Disregard existing A.R.A. fundamentals, design standards and recommended practices pertaining to car body construction and details, where, if followed, the efficiency and value of the design as a whole would be adversely affected.

(b) Request the full co-operation and assistance of the builders in the design work through the Committee on Car Design of the American Railway Car Institute.

(c) Review the design each year and make revisions as may be considered necessary or desirable so as to keep it currently up to date and representative of the latest state of the art.

(d) Design the car body so as to provide satisfactory applications of the principal proprietary specialties for a car of this type; i.e., doors, ends and roofs. At the same time, make proper provisions for designs of these items to be prepared by the builders. In the even development of satisfactory applications for both constructions to the same basic car structure is found to be impracticable, then changes in the structure necessary to accommodate either one group or the other are to be made in order to accomplish this result.

(e) All A.R.A. member roads are to be licensed by the car builders to use, without royalty, any of the constructions or details incorporated in the design by the builders, on which they now may hold patents, have patents pending or for which later they may file applications.

(f) Take advantage of available information relating to maintenance and service of existing cars of this general type.

Principal Features of the Design

In two important respects the new design departs from existing fundamentals and standard practice of the Mechanical Division. These are a reduction of 1 in. in the center-plate height and a complete change in the center-sill section. In the case of the bolster and cross-bearer cover plates, the maximum calculated stresses specified in the fundamental calculations recommended by the Mechanical Division for box cars are slightly exceeded, the committee pointing out in this connection that the success of the structure depends largely on the connections and the magnitudes of secondary stresses, usually not subject to accurate determination by calculation, and that too much emphasis should not be placed on the calculated direct stresses.

Reducing the center-plate height to 25¾ in., which is

1 in. less than the present standard A.R.A. height, permitted the development of a design in which the center line of draft is only slightly below the neutral axis of the center-sill section. The secondary stresses of buffing are thus practically eliminated and the combined stresses in the sill section are considerably reduced. For 40- and 50-ton trucks ample rail clearances are provided even when using multiple-wear rolled-steel wheels turned down to the minimum permissible rim thickness.

The center-sill section most generally used at present consists of two rolled members with a riveted top cover plate. In order to obtain a more uniform resistance to shocks a member which is practically a single unit has been formed by the use of two rolled Z-bars having the inner edges of the top horizontal flanges joined together by a welded seam. The seam, which may consist of a light continuous weld or a series of short welds, is provided so as to enable the two center-sill members properly to resist lateral deflection when under buff. This construction, being in the form of an inverted flanged U, provides a smooth interior surface for the application of the bolster-center filler, draft gear and striker and for the cross-tie fillers. The center line of draft is $6\frac{1}{8}$ in. above the bottom edge of the sill and .309 in. below the neutral axis of the section. Because of the small eccentric arm and the substantial unit construction, the sectional area of 21.08 sq. in. is expected to give service at least equal to a much larger built-up section in which the material is differently disposed. The present standard of the association calls for a minimum section area of 28 sq. in.

The center-sill construction permits the application of an efficient design of combined bolster center filler, rear draft-gear stop and center-plate reinforcement. All bearing surfaces against the sill and bolster cover plate are machined. A direct bearing is provided between the under side of the top sill flanges and the casting, thus eliminating all live-load shear from the rivets and protecting the body center-plate flanges against failure from distortion. The filler casting has been extended beyond the bolster toward the center of the car, thus effecting a reduction in the stresses from eccentrically applied shocks, transmitted through the draft gear, in the sill back of the bolster. All rivets have been carefully located to make them easily accessible and to assure tightness when driven.

The two cross-bearers have been located in line with the door posts and two additional cross-ties have been placed across the car between the bolster and cross-bearer at each end. An intermediate stringer of Z-bar section has been located midway between the side sill and the center sills extending longitudinally between the bolsters, cross-ties and cross-bearers. This support for the floor structure, which was not provided in the previous design, has permitted the use of $1\frac{3}{4}$ -in. pine flooring instead of the $2\frac{1}{4}$ -in. material specified in the previous design.

In numerous previous box-car designs, including the 1923 recommended-practice design, the side sill consists of a heavy channel located below the floor line. Usually the side posts have taken the form of a flanged U-pressing connected at the bottom to the top flange of the side-sill channel. With the side sheets extending below the bottom line of the floor, which rests on the top flange of the sill, a pocket is formed between the ends of the floor boards and the sheets where moisture collects and causes relatively rapid corrosion of the sheets. The attachment of the side posts to the sill is inefficient and in some cases it has been necessary to reduce the post section at the bottom and flange out the material to form the connection thereto, further weakening the

structure at this point. It is also necessary to cut out and fit the floor boards around the posts, thus subjecting the posts to corrosion. Due to the relatively greater stiffness of the side channel as compared with the posts, it is believed that the latter are called upon to perform more than a proportionate part of the work in absorbing shocks.

It was the aim of the designers to develop the side construction of the new car so that as nearly as practicable all parts would work uniformly together when deflecting under load. To accomplish this, a side-sill angle having a relatively long vertical leg was selected to which the posts might be securely connected with their bottom ends terminating a short distance above the top surface of the wood flooring. This also made it possible to locate the joint between the relatively thin side sheets and the side-sill angle well above the top of the floor, thus removing this sheet from the immediate zone of rapid corrosion, and permitting a reduction in the thickness of the steel sheathing from 0.11 in. to 0.10 in. In this manner the side-sill angle functions both as a strength and a closure member.

The horizontal flange is of sufficient length to provide adequate support and means of securing the flooring and the boards are not cut out at the posts. Effective and convenient application of grain strips may be made on top of the floor and between the posts.

In order to avoid damage to certain classes of lading, it is now the general practice to extend the side lining down to $1\frac{1}{2}$ in. of the floor and to round off the inside corner of the bottom boards. This has been done in the new design and it is consequently necessary, when replacing floor boards, to remove the adjacent bottom lining boards.

A number of studies were made in efforts to eliminate the latter operation, but to accomplish this it was found necessary in each case to deviate from the basic sill and post arrangement with an increase in cost and weight. The committee considered this inadvisable in view of the relatively infrequent floor board renewals required in box cars as compared with automobile cars and the fact that the bottom lining boards often require renewal independently of the floor and at no great expense. The committee, however, is giving this matter further study with a view to finding a means to permit individual floor board renewals without disturbing the lining with the proposed basic sill and post arrangement.

The side plate is a modified form of Z-bar, known as the W-section, formed by curving the upwardly extending leg inward to provide additional support for the roof structure where it curves down at the eaves. An alternate design using the customary Z-section has also been provided. The side posts and door header are rolled steel Z-sections and the door posts are formed of rolled steel angles with the inwardly projecting flange pressed into channel form.

Ends, Roofs and Doors

The drawing in Fig. 1 shows the car equipped with the latest designs of proprietary ends, roofs and doors. Fig. 2 shows the car equipped with ends, roofs and doors of builders' design. Both designs are completely interchangeable so far as ends and roofs are concerned and require no change in the basic structure of the car body in the case of doors. The outside door frames, however, differ for the two types.

In the case of the proprietary corrugated end, the top half is $3/16$ in. thick and the bottom half $1/4$ in. thick, while in the end designed by the builders the upper two-thirds is $3/16$ in. thick and the bottom one-

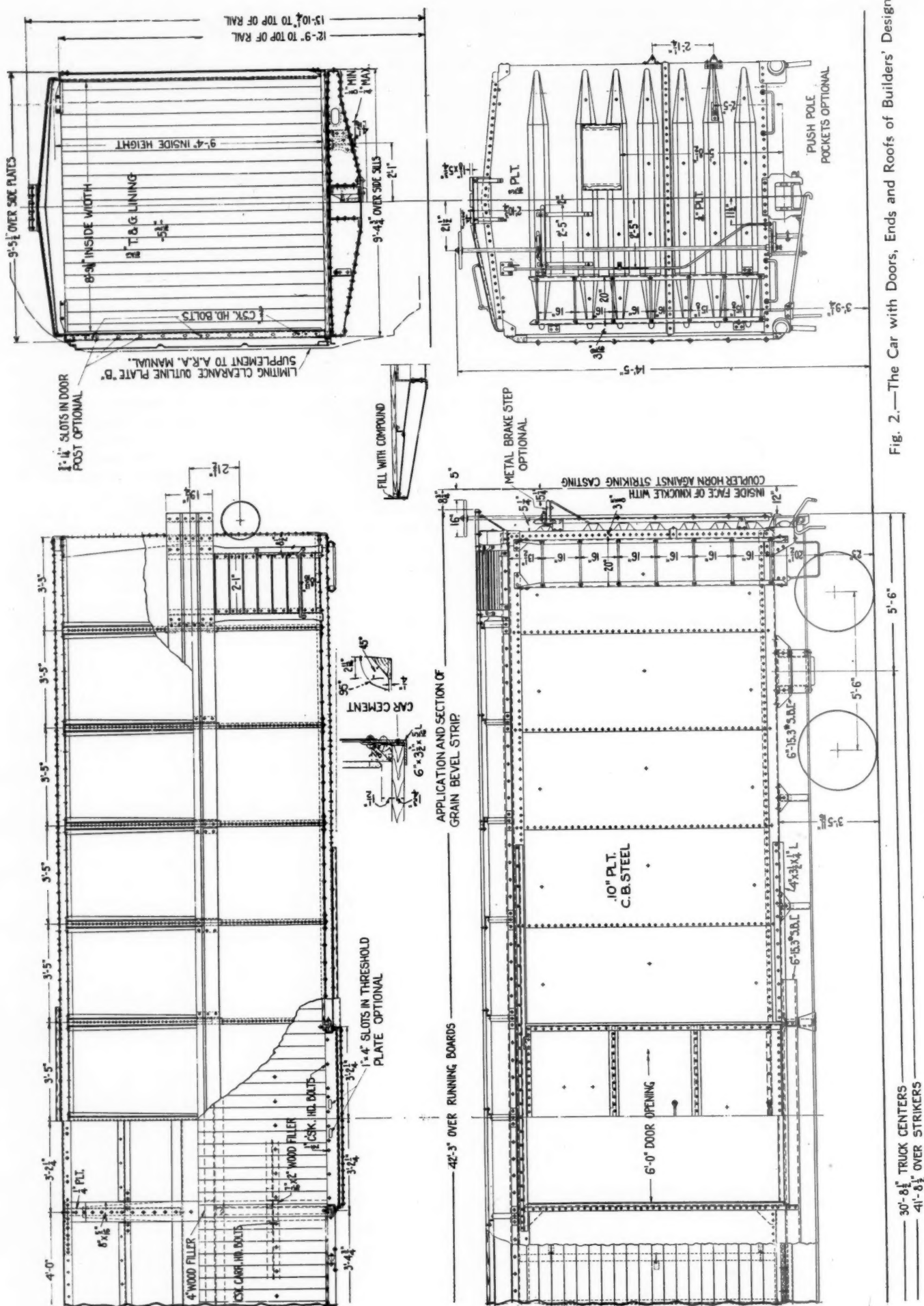


Fig. 2 —The Car with Doors, Ends and Roofs of Builders' Design

third $\frac{1}{4}$ in. thick. The builder's end is approximately 71 lb. per car lighter than the proprietary end.

Only the rigid form of roof is shown in the drawings, but the superstructure design is such that any form of flexible roof may be applied, if desired, without change in the base structure. The proprietary roof shown in Fig. 1 is the latest design of panelled solid-steel roof in which no vertical rivets are used and the carlines are located outside the roof sheets. Galvanized copper-bearing steel is used for resistance to corrosion. In the rigid riveted steel roof designed by the builders the roof sheets are supported on inverted flanged U-type carlines, eleven in number, thus eliminating the closed box section previously used and the possibility of moisture retention within the carline. The committee also expresses the belief that the reduction in the number of rivets for securing the roof sheets to the carlines and the use of roofing paper between the laps of the sheets should considerably reduce potential leakage troubles. Plain copper-bearing steel sheets are specified for resistance to corrosion.

Provision can readily be made for the attachment of insulation to prevent condensation on the under side of the roof sheets when desired by the purchaser.

Advantages of Standard Inside Dimensions

In presenting the new design the committee presented data to show the effect on the first cost of variations in the inside height of cars otherwise conforming to the basic design, from information prepared by the builder's committee. For an increase of $2\frac{1}{2}$ in. in height, the increases in price vary from 3 per cent on an order of 300 cars to 0.5 per cent on an order of 2,500 cars, and for a 10 in. increase in height from 4.3 per cent for 300 cars to 1.9 per cent for 2,500 cars. For example, with an increase of 5 in. in height on an order of 500 cars and the base price assumed to be \$1,850 per car, the direct increase in cost to the purchaser is calculated by the committee to be not less than \$37 per car, or a total of \$18,500 for the lot.

Other reasons set forth by the committee why non-standard cars cost the railroads more than standard cars are delays in production caused by changing from one design to another during the operation of the builder's plant, delays in getting the material on hand, difficulty in satisfying the shipper where he may choose from a variety of sizes, and added repair cost incurred by the railroads on account of having to carry different materials in stock.

The Trend of Future Developments

The new design has been developed to provide adequate strength and dependability for general interchange service and is intended for bulk loadings which the committee believes will continue to be of great importance to the railroads.

In discussing the trend of future developments, the committee made the following statement: "Although no alloy steels or integrally welded constructions have been used, except for the welded center-sill seam * * *, we believe that in the not far distant future both of these deviations from present general construction practice may be expected to provide further practical means of reducing weight. Certain railroads are now making studies relating to steels having improved strength characteristics and further developments along this line may result in material reductions in casting weights, such as bolsters, side frames, center fillers, strikers and draft-gear stops without decrease in present strength requirements.

"At this time no changes in truck materials or conventional design standards are proposed for the new design. Any type of either 40- or 50-ton nominal capacity may be used with the same body provided the general truck conditions are met. These consist of center-plate height, wheel base and clearances as illustrated * * *, also material and strength requirements in accordance with present A. R. A. specifications.

"The anticipated life and durability of a freight car depends not so much upon the use to which it is put as upon the abuse to which it is subjected. If it were not necessary to design cars to withstand severe punishment, much lighter equipment could be built and successfully operated. As time goes on, it is believed that improvements may be expected in cushioning devices, more resilient and flexible truck combinations, standards of running-gear maintenance, yard operations, train handling and braking practices and through co-operation of all concerned, including the shippers, traffic and operating department officers and maintenance organizations, the designer may be placed in position to go much farther than is now considered practicable in reducing equipment weights. It is conceivable that further reductions in weight might be accomplished in the future through the development of smaller units designed for either freight or passenger service, some of which might take the form of sectional container cars."

Grand Trunk Builds Four-Track High-Speed Suburban Line

(Continued from page 40)

11,000 cu. yd. of stable material from the cut was used as backfilling. The other sink hole noted in Zone 1 was about 400 ft. long. This was filled by lifting track after trestling failed, the weight of the fill forcing the muck out at the sides.

Three lines of the Grand Trunk Western pass through Pontiac, this being the only railway to enter the city. Recently, this road constructed a belt line around the city for the dual purpose of promoting a freer interchange between these lines and of providing rail facilities to a large area of desirable industrial sites. The belt line intersects the Detroit-Pontiac line about 1½ miles south of South boulevard, the connection with which was not made until the grades had been reduced, since the construction contemplated making this connection at the lower elevation of the new gradient.

Provisions for Drainage

Subsurface drainage was installed in all cuts, two methods for doing this having been employed, although in all cases the drains consisted of concrete tile laid with open joints, and all trenches were backfilled with bank-run gravel. In the long cut at the north end of Zone 3, a line of 12-in. tile was laid 6½ ft. from the center line of one track and a second line was laid 9 ft. outside of the other track, or below the surface ditch. It will be observed that the location of the first line of tile is such that it will be at the center of the middle intertrack space when all four tracks are laid, at which time a third line of tile will be laid.

In the remainder of the cuts on the relocated line, both lines of tile were laid 9 ft. outside the tracks beneath the surface ditches. This location was chosen on the theory that water in the roadbed will be drawn

off and disposed of quickly, thus keeping the roadbed dry at all times. Furthermore, in this location, sloughing of the banks and subsequent cleaning of the ditches will not interfere with the pipe or its functioning. The size of the pipe varies with the length of the cut and the amount of water to be carried.

New Passenger Station at Birmingham

Only one new passenger station was constructed, this being at Birmingham where the relocated line is at the maximum distance from the old line. This station, which is of an unusual English design, is of brick construction with a slate roof, and was completed at a cost of \$160,000. Included in this cost, however, are two reinforced-concrete platforms, each 600 ft. long, and two subways, one for passengers and the other for baggage and express, the latter being served by elevators to each platform. The passenger subway serves the north-bound platform only, the southbound platform being reached directly from the station by a flight of stairs. Since the newly-placed fill would not support the platforms without distortion, they were supported on reinforced-concrete columns and beams and are thus independent of the embankment and not affected by settlement. A freight house of brick to harmonize with the station was also erected.

In anticipation of the continued development of suburban traffic, passenger tunnels were constructed at four points which were selected as locations of future stations. To provide temporary facilities at three suburban station points, concrete platforms, 400 ft. long, were laid and steel shelters with steel stairs leading from the street level were provided. Other facilities include two team tracks and a house track at Birmingham. At this station, additional right of way was secured and an area was graded sufficient to accommodate a 15-track local classification yard, and 3 of the tracks were laid.

Right of Way Landscaped

In view of the plans to develop a high-class passenger service and in keeping with the character of the communities through which this line passes, an extensive system of landscaping and gardening is contemplated. Several sections were sown with experimental grasses. Four sections were also planted with Wisteria roses, 1,000 plants having been used for this purpose. The station grounds at Birmingham were graded and planted with trees, shrubbery and flowers. Through Royal Oak a strip, 13 ft. wide, on each side of the tracks was reserved outside of the right of way to be planted with shrubbery and flowers.

Future Northbound Tracks Laid

In the ultimate development of the line, it is expected that two of the four tracks will be assigned exclusively to freight and two to passenger traffic. The tracks now in service were so located that they will eventually become the northbound tracks. The future passenger main was laid with new 100-lb. A. R. A. section rail, while sawed second-hand rail of the same section was used for the freight track. Treated ties and tie plates were used throughout, and both tracks were ballasted with washed gravel. All track work was done by company forces.

All of the work, except track laying and surfacing, was done by contract. The H. W. Nelson Company, New York, did the grading. A. Guthrie & Co., Inc., St. Paul, Minn., had the contract for all subways and viaducts. The R. D. Baker Company, Royal Oak, did all paving and sodded the slopes adjacent to the grade-

separation structures, and the Walbridge-Adlinger Company, Detroit, constructed the Birmingham depot, platforms and tunnels.

The entire project was planned and executed under the direction of J. A. Heaman, chief engineer, F. P. Sisson, principal assistant engineer, and A. N. Laird, bridge engineer. H. D. F. Ingram, field engineer, was in charge of all field operations.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended June 25 dropped to 498,799 cars, the lowest figure on record for a week not including a holiday. This was a decrease of 260,564 cars as compared with the corresponding week of last year and of 437,891 cars as compared with 1930. It was also 19,610 cars less than the loading in the previous week, although increases as compared with the preceding week were shown in the loading of grain and grain products, and ore. The principal decrease was in the loading of miscellaneous freight, which decreased 18,594 cars. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, June 25, 1932

Districts	1932	1931	1930
Eastern	112,963	168,994	209,663
Allegheny	95,895	147,719	189,705
Pocahontas	30,739	48,354	52,625
Southern	73,983	108,837	126,603
Northwestern	60,303	103,887	145,816
Central Western	79,715	117,394	137,934
Southwestern	45,201	64,178	74,344
Total Western Districts	185,219	285,459	358,094
Total All Roads	498,799	759,363	936,690
Commodities			
Grain and Grain Products	27,577	41,869	48,846
Live Stock	14,587	18,776	20,543
Coal	68,247	119,055	137,521
Coke	2,916	5,079	9,391
Forest Products	16,719	30,536	47,947
Ore	4,548	30,152	61,034
Mdse. L.C.L.	174,522	216,060	239,544
Miscellaneous	189,683	297,836	371,864
June 25	498,799	759,363	936,690
June 18	518,409	739,094	920,645
June 11	501,760	732,409	926,066
June 4	447,387	761,084	935,582
May 28	520,962	711,249	860,064
Cumulative total, 25 weeks	13,622,871	18,352,855	22,424,821

The freight car surplus for the first half of June averaged 757,419 cars, including 383,931 box cars, 300,934 coal cars, 31,349 stock cars and 13,349 refrigerator cars.

Car Loading in Canada

With a slackening of grain loading in the west and a drop in lumber loading in the east, and with decreases in coal, ore, merchandise and miscellaneous freight, total car loadings in Canada for the week ended June 25 amounted to 39,302 cars, which was a decrease from the previous week's loadings of 5,434 cars or 12 per cent. The index number after adjustments for seasonal variations dropped from 71.36 for the previous week to 62.14, a new low for 1932 and also for 1931.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
June 25, 1932	39,302	16,943
June 18, 1932	44,736	18,065
June 11, 1932	43,686	17,640
June 20, 1931	52,044	22,957
Cumulative Totals for Canada		
June 25, 1932	1,038,857	513,412
June 20, 1931	1,208,542	690,358
June 21, 1930	1,467,851	890,936

Odds and Ends . . .

"You Can Sleep" on the Piedmont & Northern

A complaint that train service is being interfered with by the number of intoxicated men who go to sleep on its tracks in a Greenville, S. C., suburb has been filed with the city council by the Piedmont & Northern. The railway wants something done about it.

Haven for Eggs

The railways of this country are not the only ones which know how to treat an egg right. The Great Western Railway in England transported 1,000,000 eggs by express freight train between Truro and Paddington during a 12-month period. Of this number, less than 120 were broken or cracked in transit.

Grasshopper Season Opens

The first of the 1932 grasshopper stories comes from Manitoba, where, we are informed, billions of the pests formed a blanket inches deep over twenty miles of railroad line west of Deloraine. In accordance with tradition, a passenger train was badly delayed in traversing the line. This is a pretty good story for the season's opener and those that come in from now on will have to be good if they want to get into the paper.

A Result of the Heavier-Loading Campaign?

According to an official of the Chamberlain Bean Company of Port Huron, Mich., a carload of split peas recently delivered in Boston by the Boston & Maine contained sufficient split peas to make 2,500,000 bowls of soup, a quantity sufficient to fill 25 tank cars. Furthermore, the 125,000 lb. of peas in the car contained 30,750 lb. of protein, 77,700 lb. of carbohydrates, 1,250 lb. of fat, 201,000,000 calories and 8 different kinds of minerals. All together, this makes a pretty good carload, one which the Car Service Division may want to hold up as a model.

Propeller for Atterbury

An airplane propeller, taken from the center motor of the "City of Columbus," flagship of the Transcontinental Air Transport fleet of planes which inaugurated the first coast-to-coast rail-air service on July 8, 1929, was presented to General W. W. Atterbury, president of the Pennsylvania, on June 28. The presentation was made by Richard W. Robbins, president of Transcontinental & Western Air, the company into which Transcontinental Air Transport was merged. The propeller was presented to General Atterbury on behalf of the directors, officers and employees of the air line. According to a plaque which was also presented to General Atterbury, the propeller had had 2,520 hr. and 44 min. of service in the air, had traveled 277,281 miles and had revolved no less than 264,677,000 times.

Two Spikes Accounted For

Thanks to E. C. Schmidt, director of news service of the Union Pacific System, we now know what has become of two of the "gold spikes" which aroused our curiosity a few weeks ago. According to Mr. Schmidt, there have been two spike-driving ceremonies on the Union Pacific. One occurred when the line was completed at Promontory, Utah, on May 10, 1869, to join the Union Pacific and the Central Pacific. The gold spike used in that ceremony is now among the treasured relics at Leland Stanford University, Palo Alto, Cal. The second Union Pacific spike-driving ceremony took place on September 17, 1930, when work was started on the construction of the branch line to the Hoover Dam. This branch leaves the main line a few miles from Las Vegas, Nev. The spike, made of native Nevada silver, was driven by Secretary of the Interior Ray Lyman Wilbur. The beginning of the construction of the

branch line also marked the commencement of work on the Hoover Dam project, which is the biggest piece of construction work of its kind in history. The silver spike used in this ceremony is now in the office of Secretary Wilbur in Washington.

Back in Harness

A familiar name has gone back on a certain Canadian Pacific callboard. It is that of Peter Heenan, formerly Canadian minister of labor, who first took his place on the right side of a Canadian Pacific locomotive 30 years ago.

"It's my trade and it's a good one," said Mr. Heenan, announcing his intention to return to railroading. "I came from overalls and I have always kept it in mind that one day I must go back to them. The fact that a man has been a cabinet member is no reason why he should expect to be babied through life. Maybe it looks strange for a man who has held a high place in the government to put on overalls. But I know lots of men in overalls today who would have done better than I had they been given the opportunity."

Oldest and Youngest Veterans

The oldest and youngest members of the Veterans' Association of the Northern Pacific were photographed on June 23 at the annual meeting of the association in Minneapolis, Minn. They are J. M. Hannaford, former president of the railway company, age 81, who joined the association when it was organized in 1924, and J. M. McIlrath, age 44, who just has become eligible for membership. The eligibility rule provides that, to join, the applicant must have had 30 years of continuous service. Mr. Hannaford entered the service of the railway company as chief clerk in the general freight and passenger office at Brainerd, Minn., in 1872. Mr. McIlrath, who now is assistant chief clerk in the president's office, began his services with the company as an office boy at the age of 14.



The Northern Pacific's Oldest and Youngest Veterans, J. M. Hannaford (right) and J. M. McIlrath

NEWS

Misrepresent Meaning of "Fair Return" Clause

Automotive and waterway speakers continue misleading statements alleging "guarantee"

No section of the interstate commerce act is so much discussed and so little understood as section 15a said James J. Donohue, general claims attorney of the Louisville & Nashville, in a recent address before the Exchange Club of Louisville, Ky. Pointing out how the railways have, since the passage of the transportation act of 1920, failed by more than three billion dollars to earn the "fair" return contemplated therein, Mr. Donohue declared that "people who ought to know better are still insisting that section 15a guarantees to railroads six per cent on the value of their property."

"That statement," he continued, "was made within the last few weeks by two men brought to Washington to testify before the Senate committee considering Senate Bill 175, which contemplates the issuance of \$500,000,000 of bonds, the money to be expended over the next few years in the early completion of the river-and-harbor-improvement plan. It was made by Senator Brookhart, of Iowa, a short time ago, at a Pittsburgh dinner. I heard it made myself at the Kentucky Hotel, in February, by Pierre Schon, the general sales engineer for a great motor truck company. It was on the faith of Section 15a that the railroads borrowed, and people with money to invest lent, \$7,500,000,000 between 1921 and 1931, that money being used in the rehabilitation of railroad property after the ravages of Federal control. Had the railroads been permitted to earn a fair return, as the law provided, there would be a different story to tell in the industrial world today; the railroads, one after another, would not be knocking at the door of the Reconstruction Finance Corporation, asking for loans, protected by abundant security, with which to meet their interest and bond maturities; the number of railroad employees would not have dropped from 1,750,000 to a little over 1,000,000, and manufacturers of railroad materials and supplies would not now be in the slough of financial despond.

"Our citizens generally, now that they are face to face with a tax bill almost confiscatory, are railing against governmental extravagance in all departments, the construction of unneeded public buildings throughout the land, the increase in Federal expenditures for major departments, commissions, bureaus, etc., from \$1,964,000,000 in 1927, to \$3,195,000,000 in 1931—or 63 per cent, and are deploring

the fact that one out of every eleven persons gainfully employed in this country is on the pay roll of the federal, state, or local government, and that federal employees have increased more than six thousand in the last year. The railroads however, since 1907, for selfish reasons, if you will, but also as good citizens and because they were unwilling to have Congress spend their money to furnish a right-of-way for their competitors, have protested the wanton wastefulness in river and harbor improvements. They have consistently opposed, as a most pernicious form of 'pork-barrel' legislation, the inland waterways policy of the federal government, a policy that has already cost taxpayers \$770,000,000, is costing \$60,000,000 each year for channel maintenance, and contemplates, if and when Senate Bill 175 is enacted into law, a further expenditure of half a billion dollars on the same account, over the next few years. Is it any wonder that a difficulty is found in balancing the federal budget. And to what end is this expenditure of federal funds? In order that a comparatively few shippers, principally owners of river-bank industries, and corporations financially able to own and operate their own water craft, may have the benefit of cheap water rates at the expense of all the people.

"The railroads for years have been protesting against the waste involved in carrying out the provisions of the valuation act, passed 17 years ago at the behest of Senator LaFollette, who insisted that the physical property of the railroads could be valued by the Interstate Commerce Commission in three years; that this work would not cost more than \$3,000,000, and that such a valuation would develop that there was much 'water' in railroad securities. That law has already cost the Government \$45,000,000 and the railroads \$100,000,000, the work is far from complete, and the appropriation bill now being debated in Congress carries an item of \$3,000,000, covering the cost over the next fiscal year. But the work has proceeded far enough to show that the value of railroad property exceeds the par value of railroad stock and bonds outstanding, by more than a billion dollars. In that way is the 'water' theory exploded but at enormous cost to both the government and the railroads."

Pullman Employees in Mexico Strike

A strike of Pullman employees in Mexico which started on June 30, was ended on July 2, when employees agreed to return to work and submit all controversies to the Board of Arbitration and Conciliation. The strike followed a refusal of the union to accept reduction in personnel.

Holiday Excursions Were Well Patronized

Regular week-end rates and other fare concessions bring good business

Independence Day excursions operated by railroads during the period from June 30 to July 4, were unusually well patronized. The outstanding feature of the excursion patronage this year was a change in the character of people taking advantage of the low rates. These rates in western territory amounted to about one cent a mile for coaches and about 60 per cent of the one-way fare for sleeping cars, and were in effect between all points on the various systems. The Illinois Central carried 716 passengers at the rate of \$5 in a special train which left Memphis, Tenn., on July 2 and which returned from Chicago on July 4. A special train from Chicago to points in the South carried 460 passengers. Three other excursions out of Memphis carried a total of 590 persons, of which 224 were destined to St. Louis, Mo., 108 to Gulfport, Miss., and 258 to New Orleans, La. Additional passengers were handled on regular trains.

The Chicago, Milwaukee, St. Paul & Pacific experienced a movement heavier than that of last year between Chicago and such points as Milwaukee, the Twin Cities and Omaha. While a large portion of the business was handled on regular trains, it was necessary to use 100 additional cars. Because of the arrangement of schedules and the fact that business into and out of Chicago was the same, many of the trains were able to make four round trips during the holidays. Some regular trains were operated in two sections.

The Chicago & North Western operated its Fishermans Special to points in Wisconsin out of Chicago in four sections on July 1, while on the same day five other trains were operated out of Chicago in two sections. On the following day the Fishermans Special was operated in two sections, while a train to Green Bay, Wis., was operated in three sections. The Columbine, from Chicago to Denver, was operated in two sections on July 2, while additional equipment was required on the Overland Limited, the Rochester-Minnesota Special, the Duluth-Superior Limited and the Victory. On Saturday and Monday, over 8,200 passengers were handled to the races at Arlington, Ill.

In eastern territory the Delaware, Lackawanna & Western, while it experienced a falling off in long-haul excursion business as compared with other years, found its short one-day excursions from New

York to such resorts as Delaware Water Gap, Pa., and Lake Hopatcong, N. J., well patronized. Despite the unfavorable weather more than 400 persons took advantage of July 4 round-trip excursion rates of \$1 to Lake Hopatcong and \$2 to Delaware Water Gap. Also, this road carried more than the usual number of passengers on week-end trips to Pocono Mountain resorts.

The Lehigh Valley noted some drop as compared with other years in its Niagara Falls excursion business but regarded the results as satisfactory on the whole. This road's one-day excursion from New York to the coal regions on July 3 was patronized by 600 persons. The Baltimore & Ohio carried 700 passengers from New York to Washington, D. C., on July 4 under a round-trip excursion rate of \$3.50. Its long-distance excursions from New York, to Cincinnati, Toledo and Akron, Ohio, and Detroit, Mich., were also well patronized.

The Central of New Jersey, serving Atlantic City, N. J., and other North Jersey resorts, found week-end travel very heavy with passengers taking advantage of the week-end round-trip rates of 45 per cent less than the regular fares. Also, one-day excursions between New York and Atlantic City at a \$2 round-trip rate were well patronized, two trains being operated on July 3 and two on the holiday. To North Jersey resorts both the all-rail and the Sandy Hook steamer routes attracted large crowds on both the week-end fare basis and the one-day excursions operated on July 3 at \$1. Extra trains were necessary on July 4 to handle the crowds returning to New York and Newark.

While the revenue of the New York Central from holiday passenger traffic was approximately 20 per cent under that of previous years this road nevertheless regards the results as satisfactory in view of current economic conditions. The N. Y. C. operated 394 extra cars to handle the business.

During the holiday period the Pennsylvania operated excursions from New York to Pittsburgh, Pa., to Atlantic City, N. J., to Point Pleasant, N. J., and to Baltimore, Md., and Washington, D. C. All of these were successful. The New York-Pittsburgh excursion, with its \$6 round-trip rate, attracted three train loads of passengers. The one-day excursions to Atlantic City were operated on a \$2 round-trip rate and the Washington excursion for \$3.50.

Net for Five Months 1.11 Per Cent

Class I railroads for the first five months of 1932 had a net railway operating income of \$99,495,673, which was at the annual rate of return of 1.11 per cent on their property investment, according to reports compiled by the Bureau of Railway Economics. In the first five months of 1931, their net was \$189,886,370, or 2.12 per cent.

Operating revenues for the first five months totaled \$1,355,204,742, compared with \$1,817,752,767 for the same period in 1931, or a decrease of 25.4 per cent. Operating expenses amounted to \$1,081,276,419, a decrease of 24.7 per cent.

Class I railroads in the five months paid \$124,941,176 in taxes, compared with

\$136,284,144 for the same period in 1931, a decrease of 8.3 per cent. For May alone, the tax bill amounted to \$25,057,714, a decrease of \$2,561,306.

Sixty-five Class I railroads operated at a loss in the first five months of 1932, of which 21 were in the Eastern district, 13 in the Southern and 31 in the Western District.

Class I railroads for May had a net of \$11,950,652, which, for that month, was at the rate of .59 per cent. In May, 1931, their net was \$41,699,649, or 2.05 per cent. Operating revenues for May amounted to \$254,741,235, compared with \$369,035,767 in May, 1931, a decrease of 31 per cent. Operating expenses totaled \$207,392,948, a decrease of 28 per cent.

Class I railroads in the Eastern district for five months had a net of \$81,200,147, at the rate of 1.80 per cent. For the same period in 1931, their net was \$111,020,821, or 2.47 per cent. Operating revenues in the Eastern district for five months amounted to \$707,642,840, a decrease of 23 per cent, while operating expenses totaled \$542,176,063, a decrease of 24.5 per cent. Class I railroads in the Eastern district for May had a net of \$13,003,300, compared with \$24,564,799 in May, 1931.

Class I railroads in the Southern district for five months had a net of \$9,066,563 at the rate of 0.64 per cent. For the same period in 1931, their net amounted to \$22,291,060, at the rate of 1.57 per cent. Operating revenues in the Southern district for five months amounted to \$171,287,434, a decrease of 28.2 per cent, while operating expenses totaled \$142,121,290, a decrease of 26 per cent. Class I railroads in the Southern district for

May had a deficit of \$264,686, compared with a net of \$4,391,073 in May, 1931.

Class I railroads in the Western district for five months had a net of \$9,228,963, at the rate of 0.31 per cent. For the same five months in 1931, they had a net of \$56,574,489, at the rate of 1.86 per cent. Operating revenues in the Western district for the five months amounted to \$476,274,468, a decrease of 27.8 per cent, while operating expenses totaled \$396,978,436, a decrease of 24.5 per cent. For the month of May alone Class I railroads in the Western district had a deficit of \$787,962. The net of the same roads in May, 1931, totaled \$12,743,777.

	Month of May		Per Cent
	1932	1931	Decline
Total operating revenues	\$254,741,235	\$369,035,767	31.0
Total operating expenses	207,392,948	288,060,286	28.0
Taxes	25,057,714	27,619,020	9.3
Net railway operating income	11,950,652	41,699,649	71.3
Operating ratio — per cent	81.41	78.06	...
Rate of return on property investm't	0.59%	2.05%	...
Five months ended May 31			
Total operating revenues	\$1,355,204,742	\$1,817,752,767	25.4
Total operating expenses	1,081,276,419	1,436,596,929	24.7
Taxes	124,941,176	136,284,144	8.3
Net railway operating income	99,495,673	189,886,370	47.6
Operating ratio — per cent	79.79	79.03	...
Rate of return on property investm't	1.11%	2.12%	...

I.C.C. Investigation Asked

An investigation of the Interstate Commerce Commission by a committee of the House of Representatives was proposed in a resolution introduced in the House on July 6 by Representative Celler, of New York. Among other things, the committee would be directed to "determine whether or not the interference with the actions of the Reconstruction Finance Corporation by the Interstate Commerce Commission has been unduly obstructive and not for the best interests of the country."

U. S. Sues to Recapture

A suit to recover from the Richmond, Fredericksburg & Potomac, under the recapture clause of the interstate commerce act, the sum of \$891,696, representing half its excess income above 6 per cent for 1922 and 1923, as found by the Interstate Commerce Commission, after allowing for payments on account, was instituted by the Department of Justice in the supreme court of the District of Columbia on July 5. The company had ignored the commission's order and the commission had requested the Comptroller General of the United States to withhold the amount from payments from the government to the railroad for mail and other transportation. The railroad sought unsuccessfully to enjoin the Comptroller General but the commission and the Department

"The job of the Commission and its very formidable staff of experts through all those years had been the policing of the railroads in respect to the multitudinous prohibitions and restrictions of the law,—all in the interest of the shipper. When the new mandate was placed in the law in 1920, to the effect that thenceforth the Commission should protect the railroads also, the policeman was made the judge and, to an extent, a contradictory and divided responsibility was imposed upon him. It may well be that the supervisory body has not yet adjusted itself perfectly to this new and dual relationship and that it will take more time for the old psychology and tendencies to wear away. It is apparent, however, that if any scheme of rate-making is to succeed, the Commission in its functioning must ultimately bring these two ideas into approximate balance. The inherent difficulty in the situation, of course, is that while the Commission can police the railroads, it lacks a similar power over the shippers."

—Alfred Hurrell, vice-president and general counsel, Prudential Insurance Company of America, in an address before the Chamber of Commerce of the United States.

of Justice have finally decided to institute litigation which may settle some of the controversial points involved in its valuation methods. Previous litigation along this line has been instituted by the railroads to enjoin the enforcement of recapture orders and so far has elicited only one final decision, in the St. Louis & O'Fallon case.

R.A.O.A. Convention

The annual convention of the Railway Accounting Officers Association will be held at the Hotel Statler, Buffalo, N. Y., August 2 to 4.

Senate Committee to Continue Investigation of Alaska Railroad

The Senate on June 30 adopted a resolution continuing until December 4, 1933, the authority of a special committee of Senators authorized by a resolution of January 16, 1931, to investigate the operations, economic situation, and prospects of the Alaska Railroad.

Freight Train Derailed at Castle Rock

Three men were killed on June 28, when a freight train of the Atchison, Topeka & Santa Fe on which they were "beating their way" was derailed near Castle Rock, Colo. A small bridge over an arroyo gave way just as the locomotive passed over it, the bridge having been weakened by heavy rains. The locomotive and several freight cars were derailed.

Investigation of Absorption of Trucking Charges

The Interstate Commerce Commission has issued an amended order including tariffs filed by the Chicago, Rock Island & Pacific in an investigation it had ordered of the lawfulness and propriety of tariffs filed by the St. Louis Southwestern and the Missouri Pacific providing for the absorption of drayage and trucking charges on certain classes of shipments in Arkansas and Missouri.

Katy Week-End Rates Bring Results

Week-end excursions operated by the Missouri-Kansas-Texas at a rate of a fare and one-third for the round trip were particularly successful on the week-ends of June 12 and 25. On June 12 more than 1,000 excursionists were carried into St. Louis and Kansas City from various points along the lines, while on the week-end of June 25, 3,000 passengers were carried between various points in Texas. On the same day, 750 excursionists were handled from St. Louis and Kansas City to local points.

Western Lines May Create "Umpire"

The railways of Western territory have under consideration the adoption of a plan to elect an officer representing all of them who would serve as an arbitrator or umpire to pass upon controversies arising from questions of competition in service, rate-making and so on. If the proposed office is created, selection of the man to fill it will be made by the executive committee of the Western Association

of Railway Executives. Published reports that the position has been definitely offered to anybody are incorrect.

Annual Meeting of Fire Protection Association

The annual meeting of the Railway Fire Protection Association, to be held at Cleveland, Ohio, will be confined to two days, October 18 and 19, to conserve time and expense. The first day of the meeting will be devoted to a discussion of immediate problems and solutions, while the second day will be taken up with reports from the standing committees. The Hand Book committee will make a report and will probably request decision as to whether to reprint, at this time, the revised hand book.

Wage Statistics

Class I railways have reported to the Interstate Commerce Commission a total of 1,086,662 employees as of the middle of April, a reduction of 9,844 as compared with the number in March. The total compensation was \$132,704,019. Compared with the returns for the corresponding month of last year, the summary for April shows a decrease in the number of employees of 244,476, or 18.37 per cent. The total compensation shows a decrease of \$54,615,030, or 29.16 per cent. In the maintenance of way and structures group the number employed was 9,248 greater than in March but other groups showed decreases.

Northern Pacific Features Rail-Motor Travel

The Northern Pacific is offering a 150-mile motor trip through the mountains in conjunction with transcontinental travel. Under the arrangements available to transcontinental travelers, persons traveling west may detain at Helena, Mont., where motor cars will take them on a two-day motor trip to Seven-Up ranch, E-Bar-L ranch and to Missoula, where the train journey westbound is resumed. Eastbound passengers can make the side trip in the reverse direction, leaving the North Coast Limited at Missoula and resuming the train journey at Helena. Seven-Up ranch is located 50 miles from Helena and E-Bar-L ranch is 40 miles northeast of Missoula.

N. Y. Railroad Club Outing Attended by 430

The annual outing of the New York Railroad Club was held on June 29 at the Westchester Country Club, Rye, N. Y., with 430 members and their guests in attendance.

In the annual golf tournament, open to members and guests, the third annual open team championship for railroad and railroad supply companies was won by the Johns-Manville Corporation. The other golfing events included driving and putting contests for those who played in the golf tournament; also, similar contests for non-golfers. The interest this year was also very pronounced in the field games.

In the evening dinner was served at the Westchester Country Club, during

which time, following the address of George LeBoutillier, president of the New York Railroad Club, prizes were awarded to the successful contestants in the golf and other events. The committees were in charge of J. S. Doyle, general chairman, R. P. Townsend, assistant general chairman and R. F. O'Leary, field chairman.

Y. M. C. A. Summer Institute

An intensive International Summer Institute of the Transportation Department of the Young Men's Christian Association will be held at Silver Bay, Lake George, N. Y., beginning Friday evening, July 22, and extending through July 29. Changing railway conditions are challenging the movement with difficult problems and heavy responsibilities. A morning, afternoon and evening session will be held each day and thorough consideration will be given to the trends and outlook of the railway industry; also of ways and means of successfully meeting the increased demands upon the Y. M. C. A., as well as the responsibility for extending Y. M. C. A. services into other fields of transport, including bus, taxicab and aviation. Consideration will also be given to plans for an international railroad conference.

Another Reason For Abandoning A Railroad Branch

Destruction of the distillery business on the Kentucky Highlands as the result of the adoption of the eighteenth amendment is mentioned, in addition to the development of motor transportation, among other reasons for the abandonment by the Louisville & Nashville of its Louisville & Atlantic branch, from Cliffside to Irvine, Ky., about 77 miles, in a proposed report by Examiner O. D. Weed, of the Interstate Commerce Commission, recommending that the commission authorize the abandonment. The report finds that the traffic on the line is insufficient to support it and that the inconvenience which some of the communities may suffer will not be sufficient to counterbalance the applicant's loss from its operation; also that with the existing highways and the motor equipment available, "it is apparent that they will not lack efficient transportation facilities." In 1914, according to the report, the distillery business brought a tonnage of 32,500 tons and produced revenues of \$87,187 for the line.

I.C.C. Appropriations

The independent offices appropriation bill, under which the appropriations for the Interstate Commerce Commission for the fiscal year just begun were reduced to \$7,148,560 as compared with \$9,412,473 for the fiscal year 1932, was signed by the President on July 1, but the exact effect of the reductions on the commission's activities has not yet been ascertained because of conflicting interpretations as to the effect of the furlough and other provisions in the economy bill, which also became a law, under which most federal employees will be furloughed for a month without pay and additional furloughs may be required to enable government depart-

ments to keep within their appropriations. The law says that the savings effected by the furloughs shall be impounded and returned to the Treasury, but there are also several other provisions in the bill on which a ruling has been asked of the Comptroller General. The first impression of administrative officers in many of the government departments seemed to be that the reductions in appropriations would have to be effected by furloughing employees for an extended period rather than dismissing many of them, and possibly by operating only five days a week. The Bureau of Accounts of the commission was especially hard hit by having its appropriation reduced 54 per cent. The salaries of the commissioners were reduced to \$10,000 a year.

I.C.C. Rejects Rotation Plan

The Interstate Commerce Commission is understood to have voted 8 to 3 some time ago against a proposal made by Chairman C. R. Porter that it rotate membership on its Division 4, which handles financial matters and loans from the Reconstruction Finance Corporation, in order to allow other members of the commission to become familiar with this class of work. Division 4 has been composed for some time of Commissioners Meyer, Eastman and Mahaffie, but Commissioner Brainerd was added to it for the purpose of passing on loan applications. Because of the importance of the matters it has been handling (although some of the larger cases are handled by the full commission) and the fact that they are of the kind that attract publicity as being done in the name of the commission, there has been some tendency to refer to the division as a "super-commission" and three of the other commissioners have felt that it would be well for some of the others to have an opportunity to gain some of the experience in financial matters.

Railway Labor Organizations Urge Loans for Unemployed

Bills to carry out the plan recommended by the Railway Labor Executives' Association at a recent meeting in Cleveland for the creation of the United States Exchange Corporation to make government loans to unemployed heads of households were introduced in Congress on July 2 by Senator Costigan, of Colo., as S. 4947, and Representative La Guardia, of New York, as H.R. 12,885. The corporation would be formed on the lines of the Reconstruction Finance Corporation, with \$500,000,000 initial capital and with authority to issue notes, debentures, and bonds to the amount of not more than five times its capital. The plan provides for the extension through local agencies of credits to cover six months' necessary purchases in amounts not exceeding \$300 for an individual plus \$100 for each dependant but not exceeding \$500 for each household head, on notes providing for repayment on or before ten years after date, with interest at one per cent for the first year, increasing one per cent each year. It is also proposed that the corporation be authorized to make loans to railroads and other essential enter-

prises in order to finance deferred maintenance.

Donald R. Richberg, counsel for the Railway Labor Executives' Association, was given a hearing to advocate passage of the bill before a sub-committee of the Senate manufactures committee.

Pennsylvania to Operate Conducted All-Expense Tours

Personally-conducted, all-expense tours to a number of the principal resort centers of the country will be operated by the Pennsylvania during July and August, at a cost to the patron which the announcement states is lower than has ever before been known on Eastern railroads. Each of the trips has been carefully planned by the railroad's passenger traffic department with a view to keeping the price within the bounds of the present-day vacation budget.

Included in these Pennsylvania tours are four 8-day trips to Colorado, three in July and one in August, visiting Colorado Springs and Denver, with an automobile trip into Rocky Mountain National Park. The railroad will also operate five 9- and 10-day tours, three in July and two in August, to eastern Canada, visiting Niagara Falls, the Thousand Islands, Montreal, Quebec and the Saguenay river, with return routes either through the Green mountains or by way of Lake Champlain and the Hudson river. New England trips of 5, 6 and 7 days' duration, at unusually low rates, will leave every Sunday during the summer from principal points in the eastern part of Pennsylvania Railroad territory; while Great Lakes cruises, featured by stops at Buffalo, Cleveland, Detroit, Chicago, Mackinac Island and Duluth, will be offered at frequent intervals.

National Chamber Appoints New Committee on Railroads

The newly appointed Special Committee on Railroads of the Chamber of Commerce of the United States met at Washington on July 1. Measures for overcoming present difficulties and placing railroad credit on a sound basis for the future were considered, including needed changes in the interstate commerce act in regard to rate-making, valuations and other provisions affecting railroad operation and finance. The committee took steps to prepare its report during the summer for submission to the board of directors early in the fall. Judge F. C. Dillard of Sherman, Tex., is chairman of the committee. Other members are:

C. E. Bockus, president, Clinchfield Coal Company, New York; E. George Butler, secretary-treasurer, John G. Butler Company, Savannah; J. S. Crutchfield, president, American Fruit Growers, Pittsburgh; Pierpont V. Davis, vice-president, The National City Company, New York; Carl P. Dennett, president, General Capital Corporation, Boston; Thomas H. Hanrahan, president, Buffalo Freight Terminal Warehouse Company, Buffalo; Emory R. Johnson, dean, Wharton School of Finance and Commerce, University of Pennsylvania, Philadelphia; E. B. Ober, president, Motor Power Equipment Company, St. Paul; W. L.

Petrikin, chairman of the board, The Great Western Sugar Company, Denver; H. A. Scandrett, president, Chicago, Milwaukee, St. Paul & Pacific, Chicago; Harry A. Wheeler, president, Railway Business Association, Chicago; R. B. White, president, Central of New Jersey, New York City.

Railroads Ask Opportunity to Compete With Trucks

Traffic officers of the eastern roads have filed with the Interstate Commerce Commission a petition asking for a rehearing on its recent decision finding not justified their proposal to reduce the ratings in the Official Classification on certain food products packed in glass containers to the same basis as that provided for the same foods in tin containers as involving an unwarranted invasion of their managerial discretion. "Most of the packers already ship more tonnage by truck than by rail," the petition says. "The trucks make no distinction between glass containers and the metal containers and the trucks are getting the business. On this fact alone, it must again be clear that sound policy should require the carriers to adjust their classification rating so as to meet this competition. Again, it cannot be said that the carriers have abused their discretion in conforming their own situation to that of their competitors." The commission had previously held that the ratings on glass-packed foods should not exceed those in tin by more than one numbered class and the railroads undertook to establish the prescribed relationship by increasing the ratings for tin-packed foods and reducing those for glass-packed foods. This was approved by the commission after a suspension proceeding, but by schedules filed to become effective February 4, 1931, the carriers proposed the reduction on glass packages. This was suspended and the decision finding it not justified was issued May 26 this year.

Loans By Railroad Credit Corporation

Loans either actually made or authorized by The Railroad Credit Corporation to railroads to meet their fixed interest obligations totaled \$29,589,563 on July 1, according to the monthly report filed with the Interstate Commerce Commission. Of that amount, \$15,938,690 represents loans actually made, leaving a balance of \$13,650,873 to which the corporation is committed.

Collection of rate increases under Ex Parte 103, according to the report, totaled \$20,783,249 in the first four months this year, the increase having become effective on January 4. The amount derived from the increase amounted to \$5,516,655 in April. The railroads, by the terms of the plan under which the fund is administered, have forty days after the end of each month in which to file with the corporation the amount received from rate increases during that month and they are allowed ten days in which to turn the funds so derived over to the corporation.

In a letter transmitting a copy of the monthly report to the chief executives

of the various railroads, E. G. Buckland, president of The Railroad Credit Corporation, said that the cooperative spirit existing among the railroads in their dealings with The Railroad Credit Corporation is a manifestation of the willingness and readiness of the carriers to assist in the amelioration of the financial conditions.

Carloading Estimate for Third Quarter

Shippers of this country, through estimates submitted to the Shippers' Regional Advisory Boards, anticipate that carload shipments of the 29 principal commodities in the third quarter of 1932, (the months of July, August and September), will be 21.1 per cent under the actual loadings for the same period in 1931. Revenue freight carloadings are at present running 30 per cent under last year.

For the third quarter, all boards estimate a decrease in traffic compared with the same quarter of 1931, the percentages of decrease ranging from 8.8 in the Southwest district to 35.0 per cent in the Great Lakes district.

Of the 29 commodities for which loadings are forecast, it is estimated that 3 will show increases over last year's third

quarter. These are cotton, citrus fruits and potatoes. The other 26 commodities show anticipated decreases, ranging from 3.6 per cent on chemicals and explosives to 70.1 for ore and concentrates. A decrease of 20.0 per cent in coal shipments is forecast, while petroleum and petroleum products are expected to decrease 6.3 per cent. Eliminating coal and ore from the comparison, the remaining 27 commodities show an expected decrease of 15.8 per cent.

Net Deficit Four Months \$76,489,492

Class I railways of the United States in the first four months of this year had a net deficit of \$76,489,492, after payment of rentals and interest, according to the Interstate Commerce Commission's monthly statement of selected income and balance-sheet items. For April alone the net deficit was \$20,682,727. For four months of last year the roads had a net income of \$959,610. This year they had a net railway operating income of \$87,984,882 but deductions amounted to \$229,452,661. Dividends declared, from income and surplus, in the four months, amounted to \$24,249,326, as compared with \$71,980,103 in the corresponding period of last year.

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS IN THE UNITED STATES

Compiled from 160 reports (Form IBS) representing 164 steam railways, including 17 switching and terminal companies

TOTALS FOR THE UNITED STATES (ALL REGIONS) [†]			
For the month of April		For the four months of	
1932	1931	1932	1931
\$20,711,926	\$39,775,727	\$87,984,882	\$148,671,815
16,416,506	20,462,790	64,978,287	80,579,758
37,128,432	60,238,517	152,963,169	229,251,573
11,129,545	11,059,354	43,623,688	43,555,772
44,489,265	44,374,222	177,386,807	176,335,683
2,192,349	2,181,936	8,442,166	8,400,508
57,811,159	57,615,512	229,452,661	228,291,963
d 20,682,727	2,623,005	d 76,489,492	959,610
589,203	2,578,873	18,686,192	56,594,077
808,481	2,054,552	5,563,134	15,386,026
		Balance at end of April	
		1932	1931
10. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707).....		\$778,348,668	\$840,490,647
11. Cash.....		287,039,243	398,250,348
12. Demand loans and deposits.....		45,881,376	55,438,960
13. Time drafts and deposits.....		26,815,692	116,000,114
14. Special deposits.....		36,098,402	110,494,582
15. Loans and bills receivable.....		21,103,095	10,629,832
16. Traffic and car-service balances receivable.....		52,368,279	70,091,162
17. Net balance receivable from agents and conductors.....		38,738,471	50,771,721
18. Miscellaneous accounts receivable.....		153,101,845	171,422,102
19. Materials and supplies.....		366,563,943	432,103,822
20. Interest and dividends receivable.....		36,567,829	37,616,580
21. Rents receivable.....		3,978,815	4,780,032
22. Other current assets.....		5,683,038	8,636,384
23. Total current assets (Items 11 to 22).....		\$1,073,940,028	\$1,466,235,639
24. Funded debt maturing within six months*.....		\$104,737,666	\$151,523,930
25. Loans and bills payable.....		279,097,621	142,199,209
26. Traffic and car-service balances payable.....		66,234,977	90,315,198
27. Audited accounts and wages payable.....		220,594,848	300,715,928
28. Miscellaneous accounts payable.....		71,504,570	69,502,793
29. Interest matured unpaid.....		157,080,766	a 171,007,860
30. Dividends matured unpaid.....		7,853,595	18,713,365
31. Funded debt matured unpaid.....		51,188,402	48,939,780
32. Unmatured dividends declared.....		3,389,747	24,571,238
33. Unmatured interest accrued.....		108,120,974	110,160,788
34. Unmatured rents accrued.....		33,049,843	32,727,442
35. Other current liabilities.....		18,327,373	22,347,586
36. Total current liabilities (Items 25 to 35).....		\$1,016,442,716	\$1,031,201,187

[†] Complete data for the following Class I railways not available for inclusion in these totals: Canadian National Lines in New England, Canadian Pacific Lines in Maine, and Canadian Pacific Lines in Vermont.

* Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within six months after close of month of report.

a Includes \$28,132,816 unpaid interest accrued by Chicago & Alton R. R., succeeded by The Alton R. R. as of July 19, 1931.

d Deficit.

Foreign

British Trains Accelerated

With the recent introduction of greatly accelerated train schedules on many important routes, railways of Great Britain have completed a clean sweep of all speed records of importance, says a recent issue of "Railway Newsletter," official publicity organ of the British roads.

The accelerations effected in all parts of the country, which are to be greatly extended with the introduction of the summer services in mid-July, have given an enormous impetus to public interest in railway speeds, it continues. More powerful locomotives, increased track capacity and resignaling, have made it possible for train schedules to be tightened up almost everywhere.

Not only does Great Britain hold the record for the fastest "start-to-stop" journey on any railway in the world, but she now claims the record for the fastest non-stop run of over 100 miles in Europe.

The world's record is held by the famous "Cheltenham Flyer" of the Great Western, scheduled to cover the 77¼ miles from Swindon to Paddington in 67 minutes, at an average speed of 69.2 m.p.h.

The record for the fastest non-stop run in Europe of over 100 miles is now claimed by the London & North Eastern's 7:50 a.m. express from Leeds to King's Cross, which covers the last lap of 105½ miles, Grantham to King's Cross, in 100 minutes, at an average speed of 63.3 m.p.h. The same company has four regular daily trains making start-to-stop journeys at over 60 m.p.h.

Another notable example of speeding-up train services is provided by the 4:50 p.m. two-hour express of the London, Midland & Scottish from Birmingham to Euston. With the introduction of an extra stop at Coventry this train has been speeded-up to cover the 88¾ miles from Coventry to Willesden in 87 minutes, at an average speed of 61.2 m.p.h., no increase being made in the overall journey time between Birmingham and Euston, despite the introduction of the extra stop.

Some very fast trains are now running between London and south coast resorts, notwithstanding the fact there are heavy grades on all the Southern's lines to the coast. The "Southern Belle" and other London-Brighton expresses perform the journey of 51 miles in the even hour, while the "Bournemouth Limited" between Waterloo and Bournemouth and *vice versa* takes only two hours for the 108 miles—an average speed of 54 m.p.h.

From Waterloo to Salisbury the "Atlantic Coast Express" takes 90 minutes for 84 miles, much of it hard going from the locomotive point of view, while on the Eastern section trains between Charing Cross and Folkestone, and *vice versa*, cover the 70 miles in 80 minutes.

"In view of the constant efforts which are being made to speed up not only expresses but also local trains in all parts of the country," the Newsletter concludes, "no charge can be laid against British

railways that they do not make use of the opportunities for fast running provided by powerful locomotives, perfectly-laid tracks, smooth-running rolling-stock and the finest system of safety signaling in the world."

Equipment and Supplies

FREIGHT CARS

THE UNITED STATES NAVY DEPARTMENT is inquiring for three flat cars and one box car of 50 tons' capacity and one flat car of 30 tons' capacity. Of these, three flat cars and one box car are for Sunnyvale, Cal., and one flat car for Puget Sound.

IRON & STEEL

NEW YORK CENTRAL.—A contract for 8,000 tons of fabricated steel for the west side elevated structure, New York, has been let to the American Bridge Company by the contractor, George A. Fuller Company.

MOTOR COACHES

THE GREYHOUND MANAGEMENT COMPANY has received 60 type 250, 33-passenger observation Yellow coaches from General Motors Truck Company.

THE BOSTON & MAINE TRANSPORTATION COMPANY has accepted delivery of two type Y, 29-passenger parlor Yellow coaches from General Motors Truck Company.

THE MAINE CENTRAL TRANSPORTATION COMPANY, subsidiary of the Maine Central, has received two type V, 29-passenger observation Yellow coaches from General Motors Truck Company, Pontiac, Mich.

THE RIO GRANDE MOTOR WAY, INC., subsidiary of the Denver & Rio Grande Western, has received from the General Motors Truck Company one type V, combination passenger and baggage compartment motor coach.

MISCELLANEOUS

Great Northern Puts 1,560 Men on Full Time

The Great Northern, on June 28, placed 1,560 shop men on a full-time basis while an additional 220 men were added to the railroad repair shop forces on July 5. The return to a full-time basis is in preparation for an expected heavy movement of wheat. The shops have been operating on reduced time since January 1, 1931, and have been on half-time for six months.

Supply Trade

The Royal Railway Supply Company has moved its office from 250 Park avenue to 135 East Forty-second street, New York.

American Car & Foundry Company Annual Report

As a result of conditions "unparalleled during the 33 years of its existence," the American Car & Foundry Company, for the fiscal year ending April 30, 1932, reported a net operating loss of \$2,577,277. This result—the first of its kind reported by the company in any full year of its prior history—compares with a net profit of \$1,406,347 for the fiscal year 1930-1931. Despite the unfavorable current operating result, the usual 7 per cent dividend on the outstanding preferred stock was paid by an appropriation from consolidated surplus earned in previous years; while a common dividend of 25 cents a share, aggregating \$150,000, was paid out of reserves applicable for that purpose.

Statements of the consolidated net loss and of consolidated earned surplus for the year ending April 30, 1932, are as follows:

STATEMENT OF CONSOLIDATED NET LOSS

Loss for the thirty-third fiscal year ended April 30, 1932, before including Repairs, Renewals, etc., as noted hereunder	\$ 1,464,949
Renewals, Replacements, Repairs, New Patterns, Flasks, etc.	1,112,328
Loss for Year	\$ 2,577,277

STATEMENT OF CONSOLIDATED EARNED SURPLUS

Consolidated Earned Surplus, April 30, 1931	\$39,445,021
Less: Loss for Year	2,577,277
	36,867,744
Less: Dividends	
On Preferred Capital Stock, 7%	\$2,100,000
On Common Capital Stock	150,000
	2,250,000
Less: Common Stock Dividends paid from Reserve applicable for that purpose	150,000
	2,100,000
	34,767,744
Less: Provision for shrinkage in value of Securities Held	\$2,150,400
Provision for unrealized loss on Foreign Exchange	280,171
Provision for depreciation in Inventory Values	300,000
	2,730,571
Consolidated Earned Surplus, April 30, 1932	\$32,037,173

W. H. Woodin, president, in his remarks to the stockholders, speaks in part as follows:

The causes of the result—a loss for the first time in the history of your Company—are to be found in the conditions, unparalleled during the 33 years of your Company's existence, that throughout the year prevailed in the commercial, industrial and financial life not only of our own country but of practically the entire world. That the end of such conditions is yet in sight, is by no means certain—but we must not take counsel of despair. Rather are we called upon in these trying times to maintain our courage and to adapt ourselves to things as they are, with an abiding faith in the inherent strength of our country, its institutions and its industries, and in our ability to win through to the better times that surely will come.

It is needless to dwell upon the conditions that have afflicted, and still afflict, the particular

line of industry in which your Company chiefly is engaged—the manufacture and sale of railway equipment and rolling stock. The situation of the roads generally is such as to preclude the likelihood of the resumption of equipment-buying by them in any quantity in the immediate future. The fact remains, nevertheless, that much of the equipment now in service, or thought to be available for service, will be found to be inadequate and to require replacing when conditions change for the better and the railroads are again called upon to handle traffic movements of normal volume. The Management ventures no prediction as to when that change will come, but is confident that when it does come your Company will get its full share of the resulting business.

During the year there was awarded to your Company by the Board of Transportation, New York City, a contract for the building and delivery of 500 cars for that city's subway system, at an aggregate price of approximately \$10,000,000. The competition for this order was of the keenest and it was taken at an extremely low figure. Deliveries of these cars had not begun before the close of the fiscal year but are now in course of making. In the report of operations for the year now current there will be included the results of this business—which has enabled your Management to give continuous employment to several thousand people who otherwise would be idle.

The stockholders may be assured that the Management has not been unheeding of the necessity of enforcing all possible economies in the handling of the affairs of your Company. The salaries of all officials and employees have been cut and the staff of workers has been reduced to as low a number as possible consistent with the maintenance of the efficiency of the organization. The necessity of dispensing with the services, or reducing the pay, of many who had served the Company faithfully and well for a number of years, has been a far from pleasant thing to face—but prevailing conditions and the interests of the stockholders inexorably have demanded that the necessity be met. Your Management, while taking every care that the plants are kept in condition promptly and effectively to respond to any demand that may be made for our products, is resolute in the determination to reduce to the lowest terms the cost of the maintenance and operation of your Company.

As evidenced by the Balance Sheet, your Company financially is in a sound, healthy and liquid condition.

With profound sorrow there is recorded the death, on September 25 last, of Clemuel R. Woodin, a founder of your Company and, since its formation and until his death, a member of its directorate and one of its Executive Committee.

OBITUARY

James Barrett, a member of the sales staff of the Worthington Pump & Machinery Corporation, New York, died on June 22 at the Columbia Presbyterian Medical Center, New York, after a short illness. Mr. Barrett was born in Canada on October 14, 1866, and had been in the service of the Worthington Corporation for the past 40 years.

Construction

CHICAGO, ROCK ISLAND & PACIFIC—MISSOURI-KANSAS-TEXAS—ST. LOUIS SOUTHWESTERN.—The city council of Dallas, Tex., opened bids on July 6 for the construction of a subway to carry the combined Lamar and McKinney Streets under 12 tracks of these companies in that city. This project has an estimated cost of \$262,000.

PUBLIC SERVICE COMMISSION OF NEW YORK.—The New York Public Service Commission has closed proceedings for the elimination of the West Neck Road crossing of the Long Island in Babylon, N. Y., but has approved revised contract plans and cost estimates for the elimination of the Pingleton, Middle and Winship crossings of the Erie in New Albion, N. Y.

Financial

ALABAMA & WESTERN FLORIDA.—R.F.C. Loan Denied.—The Interstate Commerce Commission on June 30 denied approval of this company's application for a loan of \$212,025 from the Reconstruction Finance Corporation on the ground that the prospective earning power and the security offered were not such as to afford reasonable assurance of ability to repay. The loan was asked to enable the company to rehabilitate its property.

ARKANSAS.—R. F. C. Loan Denied.—The Interstate Commerce Commission has denied approval of this company's application for a loan of \$22,400 from the Reconstruction Finance Corporation for various purposes on the ground that the prospective earning power and security offered are inadequate.

CENTRAL OF GEORGIA.—R.F.C. Loan.—The Interstate Commerce Commission on June 30 approved a further loan of \$1,043,869 to this company from the Reconstruction Finance Corporation to meet principal of maturing obligations, payment of taxes, rent for leased road, and overdue vouchers. The company has applied for a total of \$4,910,869, of which the commission had previously approved one loan of \$1,418,700 in February and one of \$711,750 in April.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Abandonment.—The Interstate Commerce Commission has authorized this company to abandon a branch line extending from Hopkins, Minn., to Deephaven, 7.3 miles.

ERIE.—Bonds.—The Interstate Commerce Commission has authorized this company to issue \$2,600,000 of 6 per cent refunding and improvement mortgage bonds, series of 1932, to be pledged and repledged with the Railroad Credit Corporation as collateral security for a loan.

EUREKA NEVADA.—R.F.C. Loan.—The Interstate Commerce Commission has approved a loan of \$6,000 to this company from the Reconstruction Finance Corporation, to be used for repair and rehabilitation of its road and equipment, but withheld its approval of \$4,000 additional asked to cover a \$2,500 bank loan and \$450 of working capital.

GEORGIA, SOUTHWESTERN & GULF.—R.F.C. Loan.—This company has filed with the Interstate Commerce Commission an amended application for a loan from the Reconstruction Finance Corporation reducing the amount asked from \$60,000 to \$25,000. The commission had denied approval of the larger amount.

GREENWICH & JOHNSONVILLE.—Abandonment.—The Interstate Commerce Commission has authorized this company to abandon that portion of its line extending from Johnsonville, N. Y., to Greenwich, 14.1 miles.

ILLINOIS CENTRAL.—R.F.C. Loan.—The Interstate Commerce Commission on

June 29 approved a loan of \$11,000,000 to this company from the Reconstruction Finance Corporation to provide funds to meet interest payments of \$7,466,000 and payments on the principal of equipment trust obligations amounting to \$3,534,000 falling due between July 1 and January 1. The company had applied to the Railroad Credit Corporation for a loan to cover the interest payments but the commission's report said it understood that it would be unable to obtain any part of the sum from the corporation. The railroad had also been advised by its bankers that a loan from them in the amount applied for is impossible under present circumstances. As security for the loan the company offered and the commission required the pledge of bonds of a par value of \$24,444,000 of the Illinois Central and subsidiaries and stocks of a par value of \$24,961,167. The report showed that after the company had had an average net income of \$14,135,313 for the period 1921-1930 and a net income of \$1,478,568 in 1931, its estimates for 1932 show a net deficit of \$6,939,798.

LOUISVILLE & NASHVILLE.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to procure the authentication and delivery of \$6,562,000 of first and refunding mortgage Series C bonds, to reimburse the treasury.

LOUISVILLE & NASHVILLE.—Abandonment.—Examiner O. D. Weed has recommended in a proposed report that the Interstate Commerce Commission authorize the abandonment of the branch line from Cliffside to Irvine, Ky., about 77 miles.

NEW YORK, CHICAGO & ST. LOUIS.—Final Valuation.—The final value for rate-making purposes as of 1918 of the property owned and used for common-carrier purposes was placed at \$47,075,000 in a final valuation report as of that date issued by the Interstate Commerce Commission. The final value for the Lake Erie & Western, which has since been consolidated with the Nickel Plate, was placed at \$25,807,200. The investment in road and equipment, including land, as stated on the Nickel Plate books, was \$67,361,510, and on the L. E. & W. books was \$38,787,022. Readjustment in accordance with the accounting examination would reduce these figures, the report says, to \$67,229,510 and \$38,459,319, respectively.

NEW YORK, NEW HAVEN & HARTFORD.—Bonds.—The Interstate Commerce Commission has authorized the Old Colony to issue \$1,329,000 of first mortgage series D bonds to meet a maturity and reimburse in part the parent company, the New York, New Haven & Hartford, for advances for capital expenditures, the bonds to be pledged as collateral security for short-term notes.

PERE MARQUETTE.—R. F. C. Loan.—The Interstate Commerce Commission on July 5 approved a loan of \$3,000,000 asked by this company from the Reconstruction Finance Corporation to be used for payment of its \$3,000,000 collateral trust bonds maturing August 1. Its only other

obligations maturing during the three-year life of the loan are equipment trusts, payments on which will be due in the amount of \$1,182,000 annually up to December 31, 1935. As collateral the company is required to pledge \$9,000,000 of its first mortgage bonds.

READING.—Equipment Trust Certificates.—This company has applied to the Interstate Commerce Commission for authority to assume obligation and liability in respect of an issue of \$1,800,000 of equipment trust certificates.

SILVERTON NORTHERN.—R. F. C. Loan.—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$12,945 to pay one-half of a bank loan, taxes, wages, salaries, and provide for maintenance of way and equipment.

ST. LOUIS-SAN FRANCISCO.—R.F.C. Loan Approved.—The Interstate Commerce Commission on June 30 announced its approval of the loan of \$3,390,000 from the Reconstruction Finance Corporation for the payment of \$2,481,838 of interest due July 1 on the prior lien bonds of 1950 and \$908,248 for taxes, which the company had asked in its latest supplemental application, saying that this, together with the plan for a reorganization of the company's financial structure which had been submitted, would prevent a receivership on July 1. The company had estimated its July 1 requirements at \$9,364,808 but later eliminated \$5,974,722 for loans from six banks, which had agreed to extend them and to reduce the interest rate from 6 to 3 per cent. So far as is known, the Finance Corporation is still charging 6 per cent. Without describing the plan, the commission said it had the support of banking interests, insurance companies and other holders of large blocks of the applicant's securities, including its bonds, very substantial in character, but that inasmuch as it must be formally presented for the commission's approval under Section 20a, it could not appropriately approve it until all who may wish to object have had an opportunity to present their objections.

"The plan and support which it has received do, however, furnish reasonable assurance that the ends desired can largely be accomplished," the report said. "This support is evidenced by letters addressed to the corporation and to us, in which the writers approve the plan and agree to use their best efforts to cause it to become effective and to be adopted." These include letters bearing signatures of the following banking institutions which have participated in the issue and distribution of the applicant's securities:

Chase Securities Corporation,
Dillon, Read & Company,
Speyer & Company,
J. & W. Seligman & Company, and
Guaranty Company of New York.

They also include letters signed by insurance companies with large holdings of the applicant's bonds. These are:

Metropolitan Life Insurance Company,
The Prudential Insurance Company of America,
Aetna Life Insurance Company,
John Hancock Mutual Life Insurance Company.

The applicant represents that other large holders of its securities have agreed to

support the plan, and that it has reason to believe that the plan will meet with general acceptance and will have the support of the large majority of its security holders. The plan presented, under all the circumstances, shows commendable cooperation by applicant's creditors.

"The plan, including the loan now requested, will prevent a receivership on July 1st. It is designed to be accomplished without any receivership, or at least without a foreclosure. The avoidance of a receivership or foreclosure we believe to be very desirable. The plan provides for an immediate reduction in the annual rate of interest on bank loans from 6 to 3 per cent and for the indefinite deferment of the bulk of the remainder of fixed interest charges accruing during the period of the next 5 to 10 years. It contemplates also a reduction of funded debt and increase in uncapped assets when the earnings of the company permit. Dependent upon earnings, this reduction of funded debt and increase in assets may be very substantial in amount. The plan provides for the creation of a new mortgage to secure an issue of \$25,000,000 of bonds which it is contemplated will be junior only to the underlying mortgages of constituent companies securing an aggregate of \$32,352,170 of bonds outstanding on December 31, 1931, and that \$3,390,000, principal amount of these new bonds will be issued and made available as additional security for the reconstruction loans to the applicant. It is expected an arrangement will be made whereby the management will be in the hands of bondholders so long as the interest charges are deferred."

WASHINGTON & LINCOLN.—*Abandonment.*—The Interstate Commerce Commission has authorized the receiver of this company to abandon as to interstate and foreign commerce its entire line, 20.1 miles, between Washington, Ga., and Lincoln.

Average Prices of Stocks and of Bonds

	July 5	Last week	Last year
Average price of 20 representative railway stocks..	11.78	11.44	70.02
Average price of 20 representative railway bonds..	48.93	49.51	91.91

Dividends Declared

Atchison, Topeka & Santa Fe.—Common dividend omitted.

Carolina, Clinchfield & Ohio.—\$1, payable July 11 to holders of record June 30.

Delaware, Lackawanna & Western.—Dividend omitted.

Elmira & Williamsport.—\$1.61, semi-annually, payable July 1 to holders of record June 20.

THE LEHIGH VALLEY on July 1 inaugurated a new fast service providing over night delivery for merchandise freight moving between New York, Jersey City and Newark, N. J., and Buffalo, Rochester, Geneva and Ithaca, N. Y. Under the new schedule a train will leave Jersey City at 7 p. m. daily except Saturdays, and arrive in Buffalo at 9 a. m. the next morning. This gives 24 hours faster delivery than the former schedules, which provided for second morning delivery in Buffalo.

Railway Officers

OPERATING

E. A. Sollitt, general superintendent of the Western district of the Wabash, with headquarters at St. Louis, Mo., has had his jurisdiction extended over the Eastern district, and **V. Parvin**, general superintendent of the latter district, with jurisdiction also over the Ann Arbor (a subsidiary of the Wabash), with headquarters also at St. Louis, has been appointed to the newly created position of general superintendent of the Ann Arbor, with headquarters at Owosso, Mich.

O. L. Young, superintendent of terminals on the St. Louis-San Francisco at Tulsa, Okla., has been appointed superintendent of the Central division, with headquarters at Ft. Smith, Ark., succeeding **S. T. Cantrell**, who has resigned. The position of superintendent of terminals at Tulsa has been abolished and the terminals at this point have been placed under the jurisdiction of **C. T. Mason**, superintendent of the Southwestern division, with headquarters at Sapulpa, Okla.

L. S. Emery, assistant vice-president, operation and traffic, of the Ohio Central Lines (part of the New York Central), with headquarters at Columbus, Ohio, has been appointed superintendent of the Ohio and Southern divisions, with the same headquarters. In this appointment, Mr. Emery assumes jurisdiction over territory that has been released by **E. W. Brown**, superintendent of the Ohio Central Lines and of the Toledo Terminal district and the Toledo division of the New York Central, with headquarters at Toledo, Ohio, who retains jurisdiction over the remainder of this territory. The position of assistant vice-president at Columbus has been abolished.

W. Manson, assistant superintendent on the Canadian Pacific, with headquarters at Calgary, Alta., has been promoted to superintendent of the Kootenay division, with headquarters at Nelson, B. C., succeeding **J. I. MacKay**, who has been transferred to Regina, Sask. Mr. MacKay succeeds **J. M. MacArthur**, who has been transferred to the Vancouver division, with headquarters at Vancouver, B. C., where he replaces **C. S. Maharg**, who retired on July 1 after 47 years of service with the Canadian Pacific. **W. J. McLean**, assistant superintendent, with headquarters at Field, B. C., has been transferred to the Vancouver division, with headquarters at North Bend, B. C., to succeed **John Hopgood**, who retired on July 1, after 43 years of service.

ENGINEERING AND SIGNALING

L. W. Craus, supervisor of water service of the First district of the Chicago,

Rock Island & Pacific, with headquarters at Des Moines, Iowa, has been transferred to Kansas City, Mo., with jurisdiction over the entire system, following the consolidation of the First and Second districts. **F. A. Luce**, supervisor of water supply of the Second district, with headquarters at El Reno, Okla., has been assigned to other duties. **H. H. Alfrey**, chief scale inspector of the Second district at El Reno, has been transferred to Kansas City, with jurisdiction over the system, and **C. G. Stooddy**, chief scale inspector of the First district, at Des Moines, has been assigned to other duties. **T. P. Warren**, office engineer on the First district, at Des Moines, has been transferred to Kansas City, and **A. H. Sturdevant**, office engineer on the Second district, at El Reno, has been assigned to other duties.

TRAFFIC

E. C. Warren, traveling freight and passenger agent for the Great Northern, with headquarters at Fargo, N. D., has been promoted to general agent at the same point, succeeding **D. J. McCarthy**, who has resigned.

Coincident with the creation of the position of general perishable agent on the Chicago & North Western, the following appointments to this position have been made, effective July 1: **J. L. Wilser**, Chicago. **J. R. Clyde**, Portland, Ore., San Francisco, Cal., and Los Angeles; and **J. W. McNulty**, New York. Prior to these appointments, Mr. Wilser was located at Chicago as city agent, Mr. Clyde was traveling agent at Kansas City, Mo., and Mr. McNulty was a traveling agent, with headquarters at New York.

W. McN. Knapp, freight traffic manager of the Central of Georgia, has been appointed traffic manager, succeeding **N. B. Wright**, deceased. The position of freight traffic manager has been abolished. Mr. Knapp was born in Atlanta, Ga., on October 3, 1883, and entered the transportation field in 1901, with the Clyde Steamship Company. He was later with the New York & Texas Steamship Company, and in September, 1904, he became connected with the Central of Georgia. During the United States Railroad Administration, Mr. Knapp was executive chief to the regional director of the Southern region. At the end of federal control he re-entered the service of the Central of Georgia and served successively as assistant general freight agent; general freight agent, and assistant freight traffic manager. He was appointed freight traffic manager in April, 1930, holding that position until his recent promotion.

MECHANICAL

George Twist, locomotive foreman on the Canadian Pacific, with headquarters at Nelson, B. C., has been promoted to division master mechanic of the Kootenay division, with the same headquarters,

to succeed **P. S. Lindsay**, who has retired.

The headquarters of **F. H. Murray**, district master mechanic, Eastern district, of the Erie, have been transferred from Hornell, N. Y., to Jersey City, N. J., and the position of assistant district master mechanic of that district has been abolished; **W. E. Harmison**, who served in the latter capacity, has been appointed master mechanic at Secaucus, N. J., succeeding **C. J. Gerbes**, who has been appointed to a similar position at Avoca, Pa. **C. H. Norton**, shop superintendent at Hornell, has been appointed master mechanic at that point and his former position has been abolished. **T. F. Gorman**, shop superintendent at Meadville, Pa., has been appointed master mechanic at that point, and his former position has been abolished. **B. E. Jones**, formerly master mechanic in Hornell, has been appointed supervisor of motor cars, with headquarters at Cleveland, Ohio, succeeding **C. F. Shultz**, transferred.

P. J. Colligan, superintendent of shops of the Chicago, Rock Island & Pacific, at Silvis, Ill., has been appointed to the newly-created position of superintendent of motive power of the system, with headquarters at Kansas City, Mo., following the recent consolidation of the First and Second districts of the Rock Island. **S. E. Mueller**, assistant superintendent of shops at Silvis, has been promoted to superintendent of shops at that point, to succeed Mr. Colligan, and the position of assistant superintendent of shops has been abolished. **W. B. Embury**, superintendent of motive power of the Second district, with headquarters at El Reno, Okla., has been appointed master mechanic of the Oklahoma-Southern division, with headquarters at the same point, and the position of superintendent of motive power of the Second district has been abolished. Mr. Embury succeeds **J. C. Cole**, whose headquarters were located at Chickasha, Okla., and who has been transferred to the Missouri division, with headquarters at Trenton, Mo., where he replaces **A. Hambleton**, who has been appointed general foreman, with headquarters at Shawnee, Okla.

PURCHASES AND STORES

Edwin J. Myers, who retired on July 1 as general storekeeper of the Northern Pacific, as noted in the *Railway Age* of July 2, had served the stores department of the Northern Pacific continuously for 43 years. He was born on August 14, 1863, at Warren, Pa., and entered railway service in November, 1889, as a stores laborer on the Northern Pacific at Fargo, N. D., where he served until 1890, when he was made a clerk in the office of the division storekeeper at the same point. Ten years later, Mr. Myers was advanced to division storekeeper, serving in this position successively at Mandan, N. D., Glendive, Mont., Jamestown,

N. D., Dilworth, Minn., and South Tacoma, Wash. In 1919, he was further advanced to assistant general storekeeper, with headquarters at St. Paul, Minn., which position he was holding at the time of his promotion to general storekeeper at the same point in 1926. He held the latter position until his retirement.

H. M. Smith, who has been appointed general storekeeper of the Northern Pacific, with headquarters at St. Paul, Minn., as noted in the *Railway Age* of July 2, has served the stores department of this road continuously for nearly 33 years. He was born on July 11, 1873, at Dover, Minn., and entered railway service as a stores attendant in



H. M. Smith

the St. Paul shops of the Northern Pacific on December 13, 1899. Mr. Smith was advanced through various positions in this department until 1921, when he was appointed traveling storekeeper. Five years later he was further promoted to assistant general storekeeper at St. Paul, which position he held at the time of his appointment as general storekeeper.

C. A. Nichols, who has been appointed assistant general storekeeper of the Northern Pacific, with headquarters at St. Paul, Minn., as noted in the *Railway Age* of July 2, was born at Menomonie, Wis., on November 5, 1874. He entered the service of the Northern Pacific on April 7, 1896, as a baggage and billing clerk at Brainerd, Minn., and subsequently served successively as tonnage clerk, distribution clerk, invoice clerk, stock timekeeper, chief clerk and division storekeeper at the Como shops at St. Paul. On October 1, 1926, he was advanced to traveling storekeeper, which position he was holding at the time of his recent promotion to assistant general storekeeper.

SPECIAL

R. J. Edgeworth, superintendent of police of the Chicago Junction Railway, has been appointed to the newly-created position of chief of police of all the New York Central Lines west of Albany,

N. Y., with headquarters as before at Chicago.

OBITUARY

B. O. Johnson, retired assistant to the operating vice-president of the Northern Pacific, who died on June 27 at St. Paul, Minn., as noted in the *Railway Age* for July 2, was born on May 25, 1878, at Winchester, Mass., and was graduated from Worcester Polytechnic Institute in 1900. His first railway service was with the Northern Pacific as a trackman at Minneapolis, Minn., in 1900. A year later he was transferred to the engineering department and in 1903 he was promoted to roadmaster. Two years later Mr. Johnson left the Northern Pacific to become a roadmaster on the Atchison, Topeka & Santa Fe, but returned to the former road in 1906 as a trainmaster. He was advanced to division superintendent in 1908, and served in this and various other positions until 1917, when he entered the United States army. Mr. Johnson served as a major, a lieutenant-colonel and colonel in the railway service corps in Russia, where he remained for nearly six years. Returning to the Northern Pacific in 1923, he was appointed assistant to the vice-president in charge of operation, which position he held until his retirement, except for two years when he held the position of assistant to the president.

James N. Hill Dies

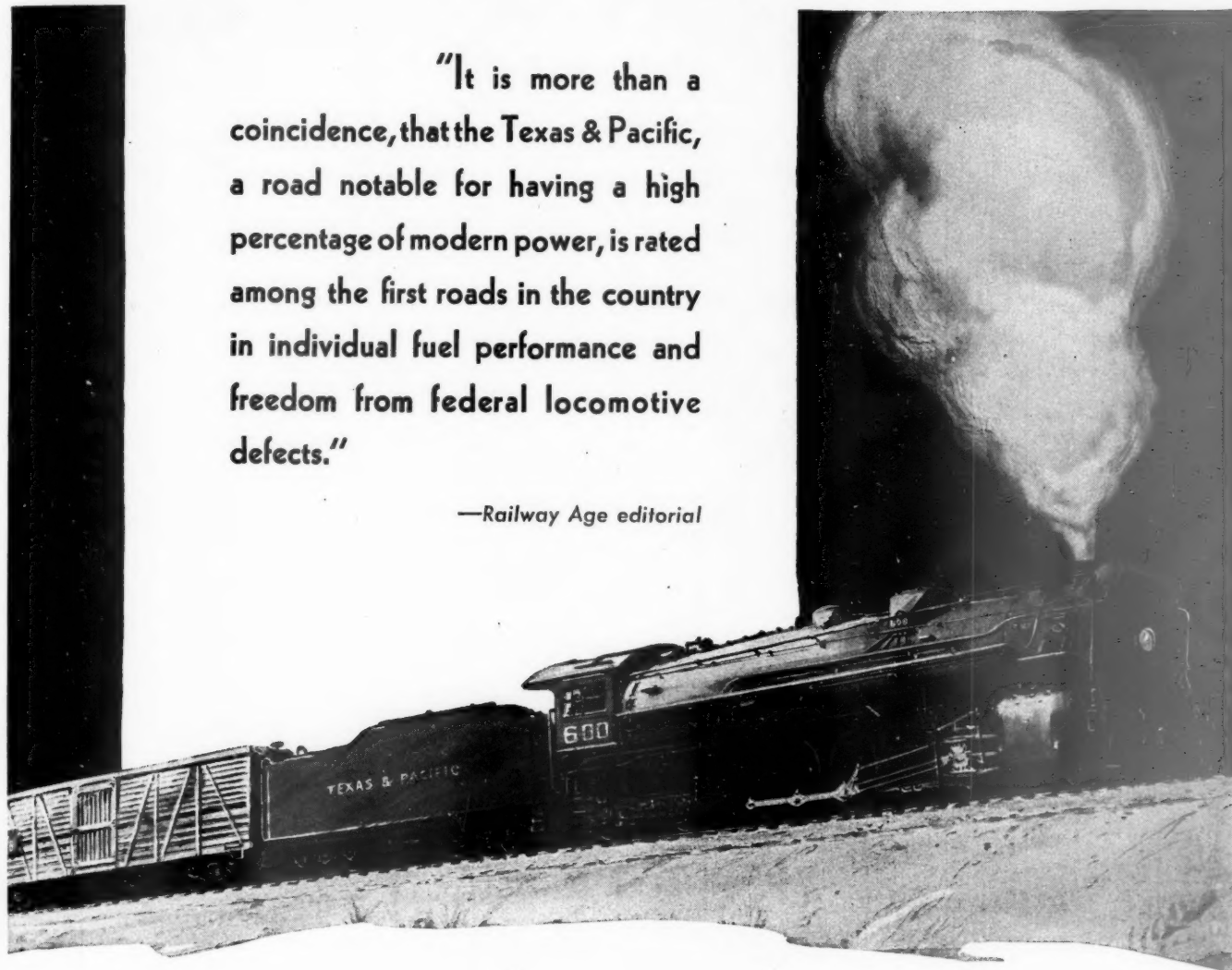
James Norman Hill, former vice-president of the Northern Pacific, and a son of the late James J. Hill, founder of the Great Northern, died on the evening of July 3 at his country estate, Big Tree Farm, near Wheatly Hills, Long Island, N. Y. He was 62 years old, and had been confined to his home since June 8, when he suffered a heart attack.

Mr. Hill, who was born at St. Paul, Minn., on February 13, 1870, was educated at Phillips Exeter Academy, Exeter, N. H., and at Yale University, New Haven, Conn., receiving his A. B. degree from Yale in 1893. Immediately following his graduation he entered railway service as a clerk in the St. Paul offices of the Northern Pacific. In August, 1905, after twelve years of service in various departments, he was elected vice-president, in which capacity he remained until his subsequent retirement from active railroad service at about the time of his father's death in 1916.

In addition to his vice-presidency of the Northern Pacific, Mr. Hill also served at various times as a director of that railroad; as vice-president of the Minnesota & International; as president of the Northern Express Company; as a director of the Colorado & Southern, the St. Paul & Northern Pacific (now a part of the Northern Pacific), the Northwestern Improvement Company, and the Northern Securities Company; and as a trustee of the Great Northern Iron Ore Properties and the Washington & Columbia River Railway (now also part of the Northern Pacific).

"It is more than a coincidence, that the Texas & Pacific, a road notable for having a high percentage of modern power, is rated among the first roads in the country in individual fuel performance and freedom from federal locomotive defects."

—Railway Age editorial



LIMA Super-Power locomotives have had an important influence on the Texas & Pacific record.

Large grate area and ample boiler proportions generate steam economically. Limited cut-off cylinders consume less steam for a given amount of power than corresponding full-stroke cylinders. The combination of these two economies together with other Super-Power characteristics result in a locomotive notable for its operating and fuel economies.



LIMA LOCOMOTIVE WORKS • Incorporated • LIMA • OHIO

Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1932

Name of road	Av. mileage operated during period.	Operating revenues			Operating expenses			Operating ratio.	Net from railway operation.	Operating income (or loss).	Net operating income.	Net operating income, 1931.
		Freight.	Passenger (inc. misc.).	Total.	Maintenance of way and structures.	Traffic.	Trans- portation.					
Akron, Canton & Youngstown.....	May 171	\$120,756	\$60	\$120,816	\$16,004	\$10,272	\$9,132	72.3	35,319	23,236	13,485	31,206
Alton.....	5 mos. 171	632,624	670,662	1,303,286	75,683	55,395	207,021	68.6	210,914	150,281	102,590	141,682
Alton.....	May 1,017	834,331	1,733,664	2,567,995	182,447	64,058	487,862	80.9	220,087	111,283	35,003	167,024
Alton & Southern.....	5 mos. 1,017	4,367,249	945,255	5,312,504	664,663	334,709	2,564,604	79.4	1,240,268	693,673	15,416	205,205
Alton & Southern.....	May 31	.....	72,793	72,793	12,385	5,451	26,128	74.90	18,268	11,100	7,741	30,904
Alton & Southern.....	5 mos. 9,725	6,349,023	1,183,971	7,532,994	38,488	26,822	140,015	66.98	130,897	90,800	17,147	99,987
Archibson, Topeka & Santa Fe.....	5 mos. 9,724	34,038,872	6,034,211	40,073,083	5,330,702	1,823,471	15,872,151	83.4	7,351,754	2,655,058	3,071,065	6,841,449
Gulf, Colorado & Santa Fe.....	May 1,955	896,626	47,143	943,769	125,866	49,425	395,323	90.9	92,819	66,441	26,378	76,930
Panhandle & Santa Fe.....	5 mos. 1,878	506,400	28,651	535,051	172,312	18,290	217,912	104.3	612,957	82,307	171,320	10,949
Panhandle & Santa Fe.....	5 mos. 1,877	2,953,935	168,226	3,122,161	778,508	101,589	1,157,561	91.2	3,086,069	13,382	419,977	354,922
Atlanta & West Point.....	May 93	57,572	17,030	74,602	17,893	7,855	50,593	119.0	17,472	27,644	38,460	24,389
Western of Alabama.....	5 mos. 93	327,734	100,498	428,232	91,711	42,954	264,777	104.3	24,079	75,273	126,910	31,317
Atlanta, Birmingham & Coast.....	May 641	169,758	5,224	174,982	49,138	18,834	94,160	121.7	43,823	59,238	68,442	96,749
Atlantic Coast Line.....	5 mos. 5,144	2,655,402	332,329	2,987,731	313,554	110,691	512,566	119.1	214,760	291,839	361,897	421,038
Charleston & Western Carolina.....	5 mos. 5,144	15,024,668	2,993,278	18,017,946	775,389	110,066	1,284,758	87.5	410,665	90,048	225,118	848,730
Baltimore & Ohio.....	May 342	126,169	1,344	127,513	24,906	5,335	50,728	86.2	18,152	21,130	35	33,662
Baltimore & Ohio.....	5 mos. 6,397	8,449,011	901,098	9,350,109	848,562	471,914	3,844,733	77.3	2,311,499	1,580,402	1,278,278	2,456,574
Baltimore & Ohio.....	5 mos. 6,397	46,537,051	4,582,283	51,119,334	5,181,576	2,227,214	21,213,132	78.3	11,970,866	8,165,128	6,909,778	9,125,334
Baltimore & Ohio Chic. Term.....	May 85	.....	258,855	258,855	21,578	1,931	141,821	87.0	33,744	5,403	78,520	69,870
Staten Island Rapid Transit.....	May 23	45,924	100,269	146,193	18,077	10,180	73,333	86.8	185,736	4,552	409,237	389,928
Bangor & Aroostook.....	May 619	672,723	12,913	685,636	87,960	4,548	120,654	46.0	382,904	297,431	301,638	133,367
Belt Ry. Co. of Chicago.....	5 mos. 53	3,368,429	3,617,018	7,005,447	443,208	2,812	709,972	49.3	1,832,155	1,498,592	1,411,938	1,257,744
Bessemer & Lake Erie.....	May 226	256,811	1,300	258,111	78,326	11,651	106,118	71.5	471,077	207,415	388,425	624,606
Boston & Maine.....	5 mos. 2,092	2,582,495	622,918	3,205,413	426,134	70,574	1,401,288	71.3	1,097,715	846,906	699,285	912,938
Brooklyn Eastern Dist. Term.....	May 11	66,795	.....	66,795	4,210	260	21,774	143.1	104,394	129,844	126,723	173,832
Burlington-Rock Island.....	5 mos. 310	56,131	982	57,113	25,104	763	117,184	145.7	585,763	713,127	682,172	528,323
Cambria & Indiana.....	May 37	468,433	.....	468,433	37,180	2,195	58,656	57.9	154,233	120,559	120,559	187,281
Canadian Pac. Lines in Maine.....	5 mos. 233	803,380	14,507	817,887	71,214	4,918	33,192	114.7	9,067	15,937	26,250	45,082
Canadian Pac. Lines in Vermont.....	5 mos. 85	39,183	10,439	49,622	29,527	2,076	57,609	95.1	21,014	13,397	80,910	216,071
Central of Georgia.....	May 1,944	4,980,433	537,166	5,517,599	650,590	24,852	379,674	84.0	629,632	97,730	6,381	14,986
Central New Jersey.....	May 692	1,745,712	443,797	2,189,509	222,177	59,215	1,035,014	81.8	432,395	61,806	6,080	366,106
Central Vermont.....	5 mos. 457	1,756,670	221,110	1,977,780	404,167	80,677	1,026,690	93.2	151,076	63,335	17,352	358,624
Chesapeake & Ohio.....	May 3,144	7,006,140	239,011	7,245,151	643,132	139,484	1,851,135	56.7	3,285,809	2,496,375	2,263,073	3,283,918
Chicago & Eastern Illinois.....	5 mos. 938	4,197,738	497,831	4,695,569	1,587,776	309,112	2,397,347	91.4	449,368	103,262	732,865	784,944

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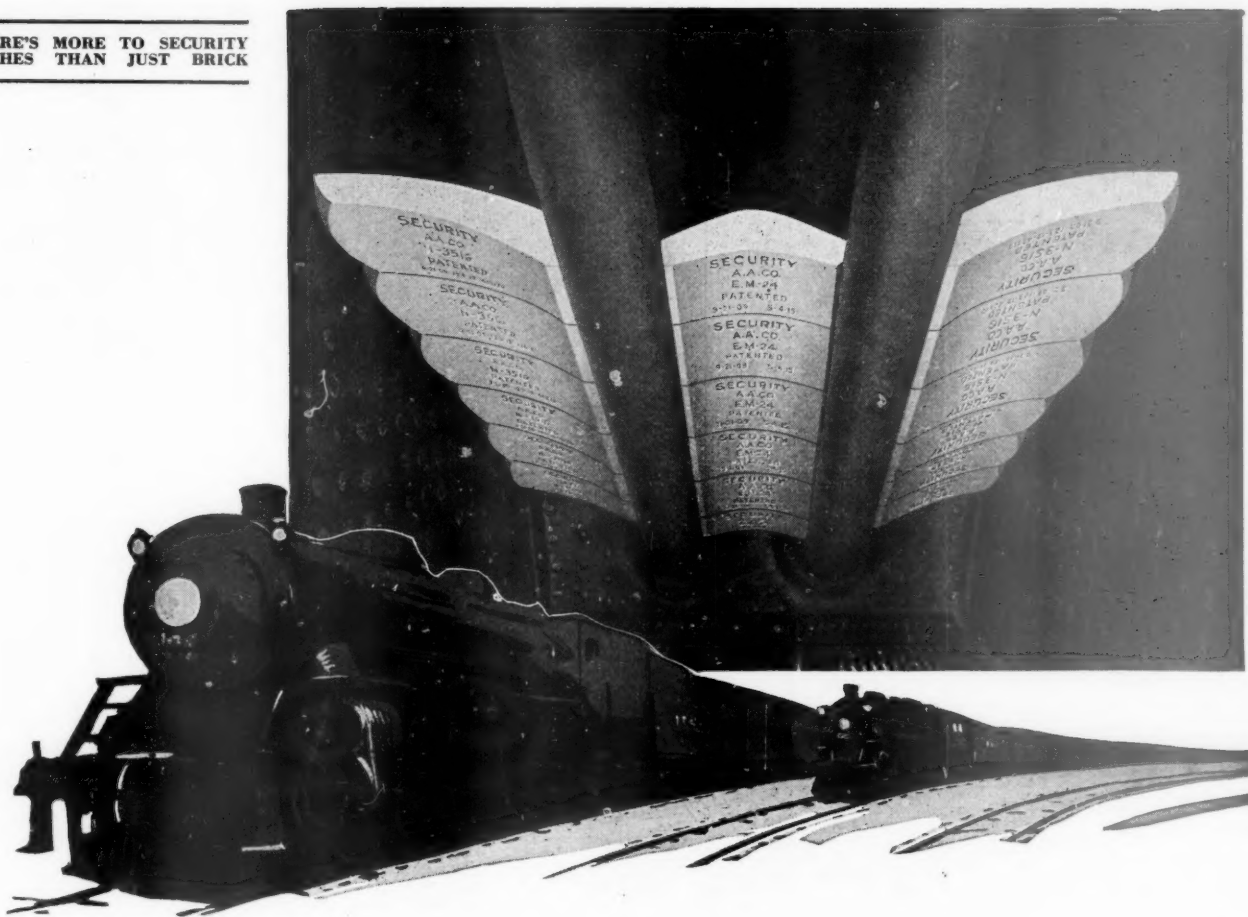
Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Total	Operating ratio	Net from railway operation	Operating income (or loss)	Net ry. operating income, 1931
		Freight	Passenger	Total (inc. misc.)	Maintenance of way and structures	Traffic	Transportation					
Chicago & Illinois Midland.....	May 131	\$84,760	\$1,551	\$86,311	\$11,623	\$18,923	\$39,489	\$108,084	115.2	\$14,264	—\$36,586	\$10,224
Chicago & Illinois Midland.....	5 mos. 131	970,246	8,231	1,012,917	75,595	199,891	286,736	742,642	73.3	270,275	226,686	98,738
Chicago & North Western.....	May 8442	4,254,766	869,382	5,124,148	1,354,432	1,763,669	2,503,325	5,267,086	94.4	328,246	—\$26,828	297,316
Chicago & North Western.....	5 mos. 8,442	22,274,462	4,355,846	26,630,308	3,985,229	8,180,884	13,518,883	26,327,751	87.2	3,871,069	457,429	2,123,087
Chicago, Burlington & Quincy.....	May 9,260	4,819,227	582,296	5,401,523	1,138,214	2,416,973	2,294,473	5,132,051	83.1	1,043,442	406,552	1,385,551
Chicago, Burlington & Quincy.....	5 mos. 9,271	27,043,429	3,121,864	30,165,293	7,366,603	12,638,616	12,638,616	25,147,241	74.0	8,841,288	5,265,864	8,890,370
Chicago Great Western.....	May 1,484	1,104,617	53,583	1,158,200	199,294	62,369	479,243	504,230	75.9	301,040	227,301	47,384
Chicago Great Western.....	5 mos. 1,492	5,792,672	329,163	6,121,835	700,340	315,949	2,631,108	4,800,304	73.1	1,765,512	1,396,036	1,045,092
Chicago, Indianapolis & Louisville.....	May 644	457,758	62,415	520,173	72,495	25,179	278,057	551,313	92.1	47,087	—2,313	53,957
Chicago, Indianapolis & Louisville.....	5 mos. 644	2,721,481	309,492	3,030,973	341,127	134,793	1,533,335	2,913,683	84.9	519,353	226,579	246,852
Chicago, Mil., St. Paul & Pacific.....	May 11,274	5,278,170	481,342	5,759,512	1,952,963	2,499,823	2,679,314	6,334,500	102.3	—149,415	—831,290	—1,248,602
Chicago, Mil., St. Paul & Pacific.....	5 mos. 11,274	28,344,078	2,531,891	30,875,969	4,828,258	1,173,138	14,654,679	23,042,477	87.2	4,395,994	770,775	1,458,800
Chicago River & Indiana.....	May 20	.....	.....	338,500	19,000	1,630	112,004	11,507	50.9	166,359	134,222	187,463
Chicago River & Indiana.....	5 mos. 20	.....	.....	1,855,780	90,500	8,083	640,087	67,510	51.2	905,600	727,347	1,176,229
Chicago, Rock Island & Pacific.....	May 7,620	4,334,235	534,871	4,869,106	1,091,589	204,782	2,303,725	4,463,904	81.7	998,245	469,613	1,29,380
Chicago, Rock Island & Pacific.....	5 mos. 7,620	22,439,255	2,987,876	25,427,131	5,734,175	1,013,762	12,102,020	23,193,165	81.5	5,233,908	2,708,811	4,343,562
Chicago, Rock Island & Gulf.....	May 721	292,101	23,453	315,554	48,333	16,774	122,633	240,503	74.1	84,285	60,946	43,412
Chicago, Rock Island & Gulf.....	5 mos. 721	1,598,281	139,943	1,738,224	168,012	87,922	610,959	1,153,089	66.6	579,494	463,828	480,013
Chic., St. Paul, Minn. & Omaha.....	May 1,736	9,224,492	133,652	9,358,144	240,000	34,828	2,679,314	5,267,086	98.1	22,541	—55,530	—129,723
Chic., St. Paul, Minn. & Omaha.....	5 mos. 1,736	4,689,786	736,147	5,425,933	943,579	168,689	2,946,494	5,617,881	94.2	345,733	—79,229	—440,010
Clinchfield R. R.....	May 309	310,365	2,230	312,595	49,885	16,234	64,368	13,587	71.6	89,975	24,973	103,633
Clinchfield R. R.....	5 mos. 309	1,764,174	12,769	1,776,943	228,617	84,809	365,319	72,465	67.1	592,734	267,734	325,440
Colorado & Southern.....	May 1,030	3,244,664	24,229	3,268,893	105,118	12,167	165,363	31,809	106.1	—24,105	—126,301	—97,030
Colorado & Southern.....	5 mos. 1,034	18,744,825	135,079	18,880,904	601,749	65,208	903,359	2,038,860	90.3	220,108	—126,301	—190,891
Ft. Worth & Denver City.....	May 694	264,103	35,583	300,686	81,571	15,916	146,704	34,538	81.1	67,463	34,921	58,022
Ft. Worth & Denver City.....	5 mos. 694	1,699,939	192,756	1,892,695	411,280	82,832	770,275	1,714,919	70.9	648,396	486,015	421,434
Columbus & Greenville.....	May 167	275,353	28,037	303,390	10,768	2,853	24,215	9,654	116.3	—8,728	—1,143	12,518
Columbus & Greenville.....	5 mos. 167	1,439,337	143,937	1,583,274	83,655	17,148	128,086	344,576	105.0	—16,292	—18,075	—50,412
Conemaugh & Black Lick.....	May 20	12,046	.....	12,046	5,001	358	16,390	4,976	135.4	—8,701	—9,201	—9,041
Conemaugh & Black Lick.....	5 mos. 20	76,063	.....	76,063	20,780	2,109	113,842	21,131	119.3	—32,864	—55,364	—58,919
Delaware & Hudson.....	May 854	1,740,960	87,607	1,828,567	353,141	49,412	808,253	1,835,240	92.3	152,115	64,170	359,380
Delaware & Hudson.....	5 mos. 854	8,883,982	560,643	9,444,625	1,568,295	256,117	4,263,373	734,901	93.6	652,856	208,228	1,157,094
Delaware, Lackawanna & Western.....	May 998	2,542,234	612,310	3,154,544	505,854	129,117	1,685,457	155,937	88.9	416,876	16,530	635,246
Delaware, Lackawanna & Western.....	5 mos. 998	14,310,331	3,231,582	17,541,913	3,832,891	826,467	8,865,467	791,135	79.8	4,142,625	2,015,930	3,223,179
Denver & Rio Grande Western.....	May 2,556	1,058,895	68,146	1,127,041	164,048	45,922	434,930	74,209	86.7	163,008	—2,063	4,584
Denver & Rio Grande Western.....	5 mos. 2,556	5,591,518	386,972	5,978,490	794,381	240,077	2,332,211	404,633	86.3	885,125	58,449	1,561,008
Denver & Salt Lake.....	May 232	75,493	5,174	80,667	24,715	1,591	20,207	9,584	83.4	15,252	252	52,431
Denver & Salt Lake.....	5 mos. 232	435,743	35,376	471,119	137,606	8,925	132,923	51,466	59.2	296,729	213,638	189,697
Detroit & Mackinac.....	May 242	45,943	2,207	48,150	23,099	1,345	23,603	3,904	111.9	—6,555	—12,788	39,274
Detroit & Mackinac.....	5 mos. 242	206,721	15,169	221,890	54,696	7,182	119,176	19,917	99.8	406	—9,304	67,382
Detroit & Toledo Shore Line.....	May 50	155,044	.....	155,044	23,317	7,244	49,043	110,867	70.6	46,082	31,646	38,015
Detroit & Toledo Shore Line.....	5 mos. 50	1,108,380	.....	1,108,380	113,018	36,653	284,009	592,986	53.0	525,020	416,318	198,028
Detroit Terminal.....	May 19	.....	.....	53,734	6,552	.....	29,565	3,151	86.8	7,198	4,715	1,857
Detroit Terminal.....	5 mos. 19	.....	.....	321,299	34,549	39,607	167,711	257,913	80.3	63,386	3,384	10,916
Detroit, Toledo & Ironton.....	May 487	400,881	357	401,238	57,072	11,812	123,802	289,026	70.4	121,343	78,399	108,339
Detroit, Toledo & Ironton.....	5 mos. 487	1,880,916	2,502	1,883,418	227,389	59,355	657,300	1,168,899	73.4	514,496	285,919	737,349
Duluth, Missabe & Northern.....	May 563	57,783	1,154	58,937	104,342	2,517	104,984	406,318	550.2	—332,473	—339,915	—58,798
Duluth, Missabe & Northern.....	5 mos. 563	301,970	7,532	309,502	456,280	16,237	622,373	1,171,945	555.5	—1,280,574	—1,821,066	—2,635,890
Duluth, Winnipeg & Pacific.....	May 178	63,224	2,169	65,393	27,236	3,261	34,546	89,143	127.2	—19,043	—22,974	—36,951
Duluth, Winnipeg & Pacific.....	5 mos. 178	371,362	12,605	383,967	403,509	16,274	196,584	440,943	109.3	37,434	—58,197	—89,488
Elgin, Joliet & Eastern.....	May 447	3,480,719	.....	3,480,719	603,835	12,785	282,439	52,990	99.6	—101,935	—131,502	6,892
Elgin, Joliet & Eastern.....	5 mos. 447	17,744,666	21	17,744,687	464,112	68,699	1,694,981	3,363,308	89.1	411,158	—155,435	403,899
Erie Railroad.....	May 2,046	4,412,372	507,262	4,919,634	1,179,462	141,818	1,983,130	252,908	78.2	1,192,838	800,393	865,355
Erie Railroad.....	5 mos. 2,046	22,528,582	2,513,039	25,041,621	5,934,209	737,217	10,528,259	21,536,669	78.3	5,976,068	3,974,698	3,574,760
Chicago & Erie.....	May 269	609,937	22,302	632,239	115,737	25,008	205,468	496,223	71.8	195,102	145,297	49,240
Chicago & Erie.....	5 mos. 269	3,279,524	119,549	3,399,073	476,708	125,385	1,094,760	2,438,837	66.8	1,210,330	940,479	315,586

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Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road	Av. mileage operated during period.	Operating revenues			Operating expenses			Net from railway operation.	Operating income (or loss).	Net operating income.	Net operating income, 1931.
		Freight.	Passenger, (inc. misc.)	Total	Maintenance of way and structures.	Equip-ment.	Traffic.	Trans- portation.			
New Jersey & New York.....	45	\$14,688	\$74,352	\$91,757	\$9,356	\$23,605	\$1,667	\$47,785	\$3,358	\$85,765	\$18,450
5 mos.....	45	88,311	368,376	470,031	42,849	123,569	7,783	253,073	17,934	445,209	101,293
N. Y., Susquehanna & Western.....	131	270,829	318,780	589,609	30,983	50,592	4,557	110,493	10,322	206,935	69,485
5 mos.....	131	1,252,083	1,500,019	2,752,102	151,479	247,991	23,876	599,175	57,371	1,079,871	385,845
Florida East Coast.....	864	449,353	80,483	599,551	111,458	141,708	20,789	174,631	39,943	491,788	283,274
5 mos.....	864	2,597,961	1,089,333	4,217,774	559,297	685,695	120,751	1,043,286	210,304	2,666,910	1,363,430
Ft. Smith & Western.....	249	46,387	834	46,871	10,699	10,008	4,595	20,002	4,569	49,903	19,553
5 mos.....	249	239,778	6,509	267,511	61,603	55,499	23,174	116,320	23,802	280,363	46,764
Galveston Wharf	11	.....	.....	136,120	43,199	4,420	3,997	26,545	5,964	99,932	6,133
5 mos.....	11	.....	.....	805,976	227,144	24,527	18,452	119,169	32,553	501,806	189,069
Georgia R. R.....	329	193,580	13,689	222,927	35,056	43,055	18,531	104,982	15,043	213,467	73,830
5 mos.....	329	1,026,148	85,029	1,218,288	165,073	235,207	93,538	598,191	89,648	1,181,608	430,326
Georgia & Florida.....	463	52,069	1,520	58,012	17,962	14,670	8,235	30,182	6,024	77,266	24,485
5 mos.....	463	326,509	6,954	358,526	102,120	78,815	43,107	168,049	32,710	425,607	111,792
Grand Trunk Western.....	1,023	1,001,683	59,614	1,153,702	155,274	261,700	48,998	598,287	94,072	1,165,363	183,003
5 mos.....	1,021	5,576,714	347,453	6,434,057	811,119	1,386,971	244,826	3,210,700	456,377	6,154,027	1,512,570
Canadian Natl. Lines in New Eng., May.....	172	59,371	7,506	77,618	24,126	21,264	3,897	64,961	8,721	120,850	95,954
5 mos.....	172	374,761	45,911	489,317	103,955	108,990	19,179	330,992	45,436	625,005	420,674
Great Northern	8,335	3,350,597	300,028	4,103,881	1,077,863	1,053,012	199,371	3,394,851	184,253	4,152,712	775,271
5 mos.....	8,337	16,396,493	1,626,037	20,338,654	3,053,835	5,233,880	947,676	8,730,276	978,943	19,115,405	65,440
Green Bay & Western.....	234	92,855	1,749	97,564	19,932	17,823	5,433	42,090	3,082	88,161	604
5 mos.....	234	469,847	7,475	489,735	92,197	85,575	21,693	221,041	14,721	234,567	10,932
Gulf & Ship Island.....	307	60,854	8,807	80,941	11,720	13,477	2,983	50,906	5,785	84,874	21,049
5 mos.....	307	362,954	52,988	478,302	53,743	72,057	17,857	266,308	36,414	494,105	56,887
Gulf, Mobile & Northern.....	733	222,833	8,097	246,439	47,889	47,889	20,739	99,529	19,327	235,373	33,673
5 mos.....	733	1,206,736	50,771	1,341,136	215,359	274,589	113,575	521,990	94,250	1,219,763	6,079
Illinois Central	5,015	4,911,222	707,421	6,442,283	844,809	1,603,235	189,466	2,407,745	313,384	5,099,299	85,985
5 mos.....	5,015	25,940,955	3,878,580	33,098,223	6,167,685	6,385,898	1,016,414	12,872,345	1,603,440	25,017,743	3,367,588
Yazoo & Mississippi Valley.....	1,673	716,979	76,112	884,552	143,326	122,502	32,302	398,694	52,532	751,790	7,921
5 mos.....	1,678	4,084,059	418,486	4,909,115	480,180	715,953	165,568	2,245,919	274,632	3,898,183	696,625
Illinois Central System.....	6,689	5,628,201	783,533	7,328,835	988,135	1,427,740	220,740	2,806,439	366,386	5,851,089	853,990
5 mos.....	6,696	30,025,014	4,297,066	38,007,338	3,097,865	7,399,848	1,181,982	15,118,264	1,878,072	28,915,926	2,670,963
Illinois Terminal	543	255,844	57,781	330,397	47,577	46,757	16,200	128,830	20,968	259,538	162,905
5 mos.....	543	1,574,523	303,673	1,975,730	248,945	259,647	81,410	748,949	124,111	1,460,480	605,532
Kansas City Southern.....	783	3,141,899	130,664	3,792,463	375,135	657,833	226,708	1,253,882	333,690	2,859,936	1,104,494
Texarkana & Ft. Smith.....	99	93,309	1,542	115,566	13,134	8,036	5,440	30,152	8,562	66,609	78,338
5 mos.....	99	414,177	8,213	481,199	67,859	41,856	30,872	153,139	43,554	344,288	18,963
Kansas, Oklahoma & Gulf.....	326	131,455	383	133,334	20,962	15,409	9,560	35,725	7,663	89,140	1,219
5 mos.....	326	746,698	2,320	763,807	82,949	76,186	50,497	194,847	42,002	446,241	20,530
Lake Superior & Ishpeming	160	21,141	68	23,071	17,656	13,121	495	14,576	4,825	50,683	243,599
5 mos.....	160	121,673	551	131,061	78,566	74,719	2,806	83,014	28,674	267,779	41,043
Lake Terminal	12	.....	.....	18,875	3,472	3,134	.....	11,857	1,902	20,365	9,566
5 mos.....	12	.....	.....	97,642	11,418	17,898	.....	68,019	10,088	107,433	201,270
Lehigh & Hudson River.....	96	128,514	572	137,828	22,774	22,607	3,388	47,989	7,984	104,742	7,307
5 mos.....	96	661,659	2,463	709,834	105,716	117,176	16,641	252,308	42,745	534,586	102,633
Lehigh & New England.....	216	238,776	452	242,465	53,590	63,561	5,262	92,125	18,505	233,043	74,220
5 mos.....	216	1,427,508	2,543	1,445,696	195,578	316,269	25,307	498,981	96,438	1,132,532	380,983
Lehigh Valley	1,361	2,563,305	238,117	3,122,237	286,803	763,290	121,110	1,394,525	124,492	2,697,910	544,106
5 mos.....	1,361	14,319,023	1,276,385	17,153,057	1,175,080	3,909,031	595,144	7,944,313	635,938	13,887,763	2,416,089
Louisiana & Arkansas.....	608	284,233	10,616	318,873	58,173	58,691	18,414	88,414	18,670	293,143	103,970
5 mos.....	608	1,561,581	44,449	1,741,492	294,146	286,814	108,800	479,344	106,594	1,275,459	375,225
Louisiana, Arkansas & Texas.....	202	36,149	353	41,957	10,840	7,233	4,131	18,427	4,563	45,050	12,427
5 mos.....	202	208,238	1,999	233,379	62,921	35,211	17,570	92,998	21,719	230,120	39,259
Louisville & Nashville.....	5,263	3,947,295	464,391	4,865,075	774,283	1,174,928	154,221	2,011,672	296,948	4,443,864	1,005,626
5 mos.....	5,263	22,397,061	2,388,263	27,106,541	4,477,462	6,170,897	921,765	10,669,118	1,532,016	23,925,799	3,939,570

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ALCO

WELDED TYPE

The ECONOMICAL STAYBOLT

PRACTICAL RELIABLE

Our line includes more than the welded and threaded bolt assemblies. We make rigid water-space, rigid radial, rigid hollow drilled, button head, and taper end crown stays.

In all these bolts, ALCO dependable construction plus quantity production can save you money.

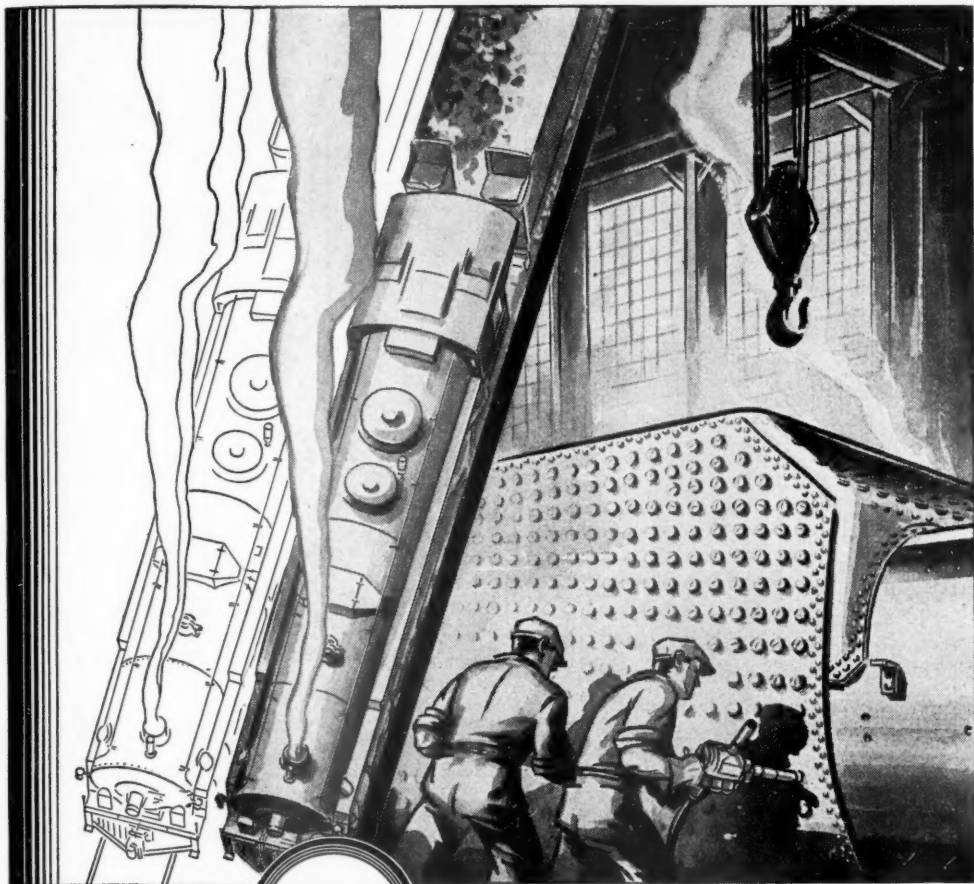
American Locomotive Company
30 Church Street New York N.Y.

Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net ry. operating income, 1931.
		Freight	Passenger (inc. misc.)	Total	Maintenance of way and structures	Equip-ment	Traffic				
Maine Central	1,121	\$859,084	\$94,546	\$1,060,593	\$185,074	\$163,574	\$12,492	73.0	\$286,044	\$277,002	\$188,424
5 mos.	1,121	4,017,586	522,771	5,032,998	809,918	840,786	83,496	38.9	1,062,077	776,005	569,119
Midland Valley	363	105,025	706	105,017	22,000	15,226	3,853	70.7	77,110	21,596	13,479
5 mos.	363	627,498	3,786	650,577	122,173	83,524	21,006	62.3	245,027	188,523	134,149
Minneapolis & St. Louis	1,627	486,959	18,436	547,675	151,813	129,941	29,405	118.8	103,135	150,627	41,450
5 mos.	1,627	2,731,293	119,110	3,113,703	430,006	680,802	167,259	107.7	324,558	246,808	73,943
Minn., St. Paul & S. S. Marie	4,349	1,599,923	103,990	1,801,911	289,408	424,292	77,121	103.8	112,033	67,327	8,934
5 mos.	4,349	7,297,855	552,515	8,636,912	1,265,230	2,230,245	341,964	99.6	37,591	874,075	1,523,622
Duluth, South Shore & Atlantic	560	101,730	12,016	127,732	46,328	36,133	6,941	133.4	170,410	68,943	61,518
5 mos.	560	537,776	75,550	685,654	144,456	173,349	33,912	14.9	101,898	240,763	51,828
Spokane International	163	36,742	1,627	42,874	12,987	4,782	2,861	111.5	4,935	9,984	4,394
5 mos.	163	184,442	13,089	218,843	76,460	24,550	14,695	117.8	38,976	64,181	2,151
Mississippi Central	150	34,063	1,197	37,251	6,664	8,571	7,677	124.1	8,971	12,762	341
5 mos.	150	235,490	6,288	252,193	49,671	67,389	40,224	112.2	30,720	49,447	15,728
Missouri & North Arkansas	364	36,742	1,627	42,874	12,987	4,782	2,861	109.7	4,935	9,984	164
5 mos.	364	342,568	6,578	373,833	83,500	62,191	14,823	103.4	12,713	25,041	13,509
Missouri-Illinois	202	64,305	529	66,691	14,243	12,509	3,224	88.3	7,815	2,520	4,120
5 mos.	202	356,881	2,621	368,099	61,441	65,190	18,273	81.1	69,547	42,873	35,100
Missouri-Kansas-Texas	3,188	1,641,301	183,390	2,054,646	282,275	306,361	119,121	78.3	445,904	229,487	112,948
5 mos.	3,188	8,872,674	965,557	11,021,526	1,371,864	1,723,444	589,543	76.9	2,517,080	1,491,703	704,389
Missouri Pacific	7,436	4,434,158	373,172	5,503,773	684,289	1,101,864	243,154	82.4	4,533,653	597,244	1,497,106
5 mos.	7,436	24,407,534	2,071,541	29,377,893	3,176,454	5,321,991	1,240,671	79.0	6,163,648	4,146,550	7,113,329
Gulf Coast Lines	1,030	667,109	35,687	761,695	76,352	121,005	38,904	62.1	288,597	240,735	309,607
5 mos.	1,030	3,853,868	213,472	4,310,708	471,306	682,250	194,786	62.71	1,607,327	1,366,422	1,149,063
International-Great Northern	1,159	725,916	59,733	867,563	97,067	146,821	30,788	77.84	192,259	150,650	260,653
5 mos.	1,159	3,629,559	329,452	4,413,311	609,348	836,059	161,666	86.68	587,840	374,945	942,395
San Antonio, Uvalde & Gulf	316	73,861	6,100	88,646	19,118	10,556	4,933	68.2	28,192	23,428	19,719
5 mos.	316	450,924	31,295	516,384	100,121	66,167	24,862	66.2	174,652	151,395	44,459
Mobile & Ohio	1,239	602,616	22,990	684,161	105,267	125,476	46,164	89.8	69,677	9,808	20,418
5 mos.	1,239	3,093,274	117,430	3,442,688	512,818	639,479	227,790	90.1	341,690	42,644	115,300
Monongahela	177	297,580	914	300,363	22,600	25,346	1,034	38.8	183,780	166,786	90,884
5 mos.	177	1,610,881	5,978	1,626,135	169,600	170,346	5,953	36.0	878,657	801,175	479,884
Monongahela Connecting	6	.....	40,750	7,636	19,808	19,808	50	134.2	13,917	19,446	760
5 mos.	6	.....	229,801	39,632	650	145,044	13,310	134.8	10,007	106,686	5,811
Montour	57	99,977	100,069	200,069	14,793	35,922	6,993	85.9	14,094	12,050	88,598
5 mos.	57	622,140	623,603	1,245,743	57,203	182,041	35,168	70.7	182,797	172,578	334,064
Nashville, Chatt. & St. Louis	1,203	767,285	76,834	935,166	156,681	221,946	53,622	95.4	42,676	283	39,061
5 mos.	1,203	4,065,974	422,127	5,025,891	792,693	1,169,429	306,672	93.3	339,224	124,446	485,790
Nevada Northern	165	27,495	1,988	33,415	9,582	5,000	778	87.3	4,174	3,220	5,239
5 mos.	165	113,642	12,360	148,739	47,922	25,230	3,987	98.6	2,128	37,669	19,735
Newburgh & South Shore	6	.....	48,151	10,564	18,601	18,601	25,340	123.6	11,341	22,812	13,284
5 mos.	6	.....	276,679	39,163	93,297	144,144	28,378	110.2	28,303	85,731	63,335
New Orleans Great Northern	264	124,128	6,261	135,147	15,292	21,290	9,187	73.4	35,960	25,241	48,971
5 mos.	264	659,634	36,795	721,606	72,306	93,033	61,988	70.1	215,618	162,746	149,656
New Orleans Terminal	20	893	137,342	7,394	6,970	6,970	32,508	35.1	89,072	77,507	38,829
5 mos.	20	6,709	577,725	57,960	37,623	37,623	166,211	46.5	309,353	251,317	67,828
New York Central	11,517	23,899,067	4,735,184	28,634,251	5,968,529	9,298,240	646,732	84.0	27,246,007	1,129,597	2,852,461
5 mos.	11,517	85,486,423	26,965,958	130,070,332	13,621,993	28,186,160	3,153,942	79.1	27,246,007	13,782,184	7,293,194
Indiana Harbor Belt	120	.....	580,775	60,000	60,000	60,000	4,445	67	191,533	143,881	96,622
5 mos.	120	.....	3,171,498	332,000	328,000	328,000	21,792	68.7	99,974	778,498	536,448
Pittsburgh & Lake Erie	235	916,164	58,132	1,005,591	95,007	356,031	26,993	94.5	55,316	36,442	64,273
5 mos.	235	4,891,573	328,895	5,378,393	460,378	1,805,541	142,407	91.0	484,576	34,591	1,652,662
New York, Chicago & St. Louis	1,698	2,210,118	86,593	2,401,226	386,069	486,591	914,310	84.7	366,528	191,357	264,692
5 mos.	1,698	11,898,641	407,664	12,806,114	1,695,228	2,283,430	566,551	78.7	2,727,085	1,753,929	539,726
N. Y., New Haven & Hartford	2,083	3,380,827	2,022,652	6,202,617	838,817	973,245	2,147,944	71.5	1,764,657	1,415,519	1,788,559
5 mos.	2,083	18,601,608	11,159,229	33,884,396	4,083,120	5,104,163	417,914	69.5	10,340,054	8,039,879	5,581,785

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DOUBLE THE MILEAGE ... WITH REPUBLIC ALLOY STAYBOLTS

« When a mid-western railroad began the application of Republic alloy staybolts in 1926 they were averaging 402.6 miles per staybolt renewal. « As Republic alloy staybolts made their influence felt, this mileage increased to 648.7 in 1929 and to over 800 for last year. « By the use of modern staybolt materials this railroad is getting double the life, and thereby substantially reducing maintenance costs. « Toncan Iron, Agathon Nickel Iron and Climax alloy staybolts have repeated records for reducing staybolt renewals. « With alloy staybolt material, corrosion resistance is greater and fatigue resistance is increased. « Whatever your staybolt requirements, Republic has a material to meet them.

Toncan Iron Boiler Tubes, Pipe, Plates, Culverts, Rivets, Staybolts, Tender Plates and Firebox Sheets • Sheets and Strip for special railroad purposes Agathon Alloy Steels for Locomotive Parts • Agathon Engine Bolt Steel • Nitralloy • Agathon Iron for pins and bushings

Agathon Staybolt Iron • Climax Steel Staybolts • Upson Bolts and Nuts • Track Material, Maney Guard Rail Assemblies Enduro Stainless Steel for dining car equipment, for refrigeration cars and for firebox sheets • Agathon Nickel Forging Steel (20-27 Carbon)



The Birdsboro Steel Foundry & Machine Company of Birdsboro, Penna., has manufactured and is prepared to supply under license, Toncan Copper Molybdenum Iron castings for locomotives.

C E N T R A L A L L O Y D I V I S I O N
REPUBLIC STEEL CORPORATION
M A S S I L L O N O H I O

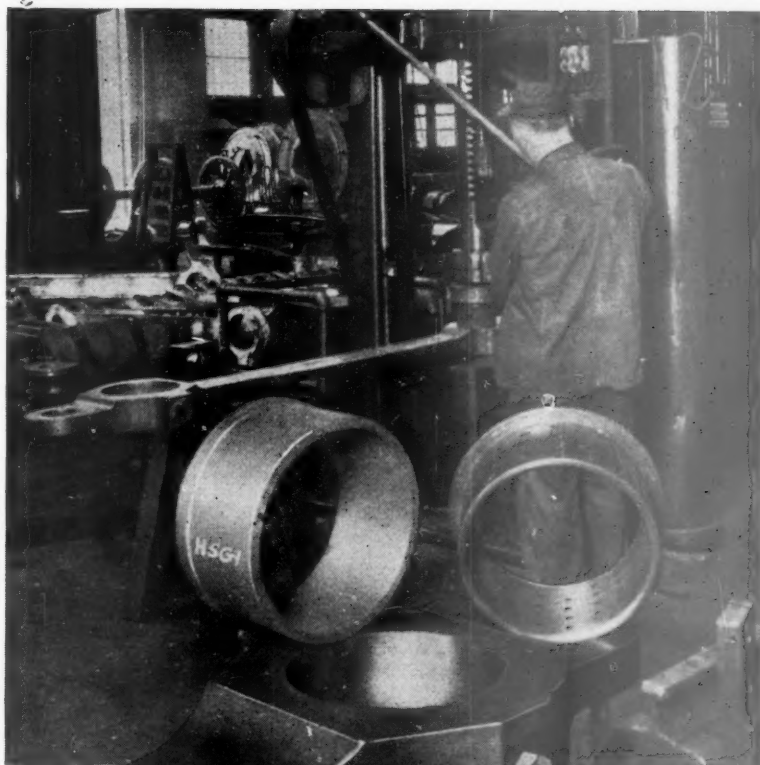
Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net ry. operating income, 1931
		Freight	Passenger (inc. misc.)	Total	Maintenance of way and structures	Traffic	Trans- portation				
New York Connecting	20	\$136,690	\$151,345	\$288,035	\$11,869	\$6,764	\$25,138	29.9	\$106,081	\$68,481	\$54,280
New York, Ontario & Western	568	899,626	895,054	1,794,680	58,139	16,609	148,092	29.9	720,207	538,607	326,921
Norfolk & Western	2,268	4,222,065	133,560	4,355,625	514,194	808,615	1,173,322	72.1	1,631,261	1,051,195	1,603,463
Norfolk Southern	2,268	23,421,612	724,140	24,145,752	2,971,742	5,329,762	6,932,883	68.2	8,000,490	4,968,917	7,794,339
Norfolk Southern	932	1,576,348	41,236	1,617,584	8,634	329,773	136,087	101.9	5,345	-50,486	3,864
Northern Pacific	6,735	3,065,761	306,769	3,372,530	726,708	806,307	1,475,374	92.7	275,534	-334,256	-61,299
Northern Pacific	6,735	14,616,348	1,509,154	16,125,502	2,562,357	4,868,083	8,004,118	98.9	197,041	-2,857,365	-1,541,924
Northwestern Pacific	441	135,335	100,901	236,236	33,435	50,884	140,699	91.9	14,491	-9,694	-20,343
Northwestern Pacific	441	612,329	445,943	1,058,272	252,786	257,061	716,481	110.6	-127,091	-281,853	-333,798
Oklahoma City-Ada-Atoka	132	36,762	472	37,234	7,949	2,436	11,105	61.7	14,924	10,546	2,525
Oklahoma City-Ada-Atoka	132	166,925	2,499	169,424	38,289	11,838	9,334	70.4	53,096	30,778	-8,551
Pennsylvania R. R.	10,897	19,160,589	5,215,399	24,375,988	1,947,468	635,991	10,154,552	71.5	7,824,927	4,979,192	4,125,619
Pennsylvania R. R.	10,897	103,358,508	27,884,349	131,242,857	12,591,172	3,311,734	56,079,579	75.7	35,810,171	24,098,114	19,754,259
Long Island	399	577,188	1,732,339	2,309,527	174,326	328,902	988,785	63.9	884,808	659,671	478,426
Peoria & Pekin Union	17	9,337	8,010,976	8,020,313	892,645	1,848,077	5,977,337	72.0	3,295,489	2,577,430	2,571,845
Peoria & Pekin Union	17	41,598	Dr. 3	41,598	8,147	6,878	18,024	86.5	68,170	-6,504	14,265
Pere Marquette	2,307	1,507,562	67,520	1,575,082	247,011	410,154	722,765	91.7	139,444	8,491	-104,337
Pittsburgh & Shawmut	102	8,363,249	356,729	8,719,978	1,286,169	2,068,675	3,876,258	87.3	1,180,498	477,099	78,938
Pittsburgh & Shawmut	102	55,235	548	55,783	10,538	19,660	14,868	87.5	7,123	6,045	4,683
Pittsburgh & Shawmut	102	296,815	3,908	300,723	53,135	107,099	84,348	89.9	30,722	25,351	27,752
Pittsburgh & West Virginia	138	137,485	89	137,574	21,178	52,352	36,079	95.6	6,621	-19,519	-8,431
Pittsburgh, Shawmut & Northern	197	86,797	561	87,364	92,717	283,987	200,266	81.2	176,275	44,108	119,734
Pittsburgh, Shawmut & Northern	197	83,886	238	84,124	18,599	1,704	30,599	88.2	10,136	7,470	11,352
Reading	1,460	3,677,505	294,891	3,972,396	865,505	84,970	1,740,078	77.0	1,002,466	938,684	917,307
Atlantic City	163	20,164,759	1,580,837	21,745,596	2,418,167	5,453,413	9,706,967	80.7	4,571,481	3,942,535	3,760,797
Atlantic City	163	60,528	60,700	121,228	29,636	16,346	116,924	127.4	-36,317	-74,783	-79,111
Atlantic City	163	370,527	215,545	586,072	148,637	81,499	589,741	134.4	-218,205	-416,511	-532,026
Richmond, Fredericksburg & Potomac	117	347,960	113,570	461,530	61,673	117,248	222,912	78.5	122,960	90,510	43,734
Rutland	413	1,774,772	840,909	2,615,681	300,329	658,672	1,234,799	75.9	784,136	606,773	331,231
Rutland	413	325,724	32,985	358,709	50,996	63,597	136,400	82.7	57,757	36,227	36,926
Rutland	413	1,022,433	215,840	1,238,273	269,526	324,562	707,654	86.5	223,304	114,716	130,504
St. Louis-San Francisco	5,266	2,728,866	259,760	2,988,626	463,050	741,959	1,164,944	78.95	700,311	381,748	1,089,652
St. Louis-San Francisco	5,266	14,075,149	1,393,880	15,469,029	2,343,137	3,832,054	6,243,052	81.46	3,156,600	1,482,094	1,213,371
Ft. Worth & Rio Grande	233	43,326	1,544	44,870	17,091	12,720	23,944	149.6	-3,196	-28,863	-13,883
Ft. Worth & Rio Grande	233	143,564	8,596	152,160	86,905	62,056	19,201	169.1	-125,818	-148,563	-170,087
St. Louis, San Francisco & Texas	262	81,104	304	81,408	19,960	18,624	35,316	99.4	484	-4,001	-50,430
St. Louis, San Francisco & Texas	262	365,842	3,245	369,087	94,307	37,574	204,571	119.8	-77,385	-99,984	-212,515
St. Louis Southwestern Lines	1,913	954,570	18,015	972,585	133,207	159,571	373,625	79.8	212,850	123,542	4,985
St. Louis Southwestern Lines	1,913	4,903,214	95,675	5,000,889	728,828	891,261	1,952,524	82.3	951,811	532,813	28,251
San Diego & Arizona	155	28,286	1	28,287	34,547	7,282	11,554	200.2	-30,003	-34,469	-35,509
Seaboard Air Line	155	140,138	22,423	162,561	77,750	48,833	233,681	134.5	-60,005	-82,391	-82,582
Seaboard Air Line	155	2,212,498	191,023	2,403,521	447,934	63,597	1,002,638	87.9	332,768	77,590	37,443
Southern Ry.	4,452	12,291,242	1,372,427	13,663,669	2,321,226	2,950,109	5,565,694	82.7	2,635,223	1,424,295	855,077
Alabama Great Southern	6,724	4,566,481	653,960	5,220,441	973,072	1,470,141	2,343,276	91.3	503,960	-59,285	700,527
Alabama Great Southern	6,724	25,626,219	3,539,339	29,165,558	4,003,150	7,438,859	12,510,067	85.7	4,570,613	1,787,720	3,107,777
Cinn., New Orleans & Tex. Pac.	337	772,235	55,635	827,870	129,353	236,135	1,158,494	77.8	200,309	141,092	216,433
Cinn., New Orleans & Tex. Pac.	337	3,888,912	354,833	4,243,745	701,631	1,231,707	3,683,249	80.8	874,158	591,350	678,453

Continued on next left-hand page

Maximum Savings with Floating Bearings



APPPLICATIONS of HUNT-SPILLER *Air Furnace* GUN IRON Outer Rod Bushings will help you to increase the economies effected by the use of floating bearings.

Floating rod bushings will wear more uniformly and heat less rapidly. Hot bearings and scored brasses will cease to be a problem.

Performance reports will show greater mileage from all the rod bearing parts. The savings in maintenance will surprise and please you. Apply HUNT-SPILLER *Air Furnace* GUN IRON and forget your rod problems.

HSGI

Reg. U. S. Trade Mark

Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings

Parts Finished for
Application

Dunbar Sectional Type
Packing
Duplex Sectional Type
Packing
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes

HUNT-SPILLER MFG. CORPORATION
J.G. Platt, Pres. & Gen. Mgr. V.W. Ellet, Vice-President.

Office & Works

383 Dorchester Ave. South Boston, 27, Mass.
Canadian Representative: Joseph Robb & Co., Ltd., 997 Aqueduct St., Montreal, P. Q.
Export Agent for Latin America:
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

HUNT-SPILLER GUN IRON

Air Furnace

Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road	Av. mileage operated during period.	Operating revenues			Operating expenses			Operating ratio.	Net from railway operation.	Operating income (or loss).	Net ry. operating income, 1931.
		Freight.	Passenger. (inc. misc.)	Total.	Way and structures.	Maintenance of equip.	Traffic.				
Georgia Southern & Florida.....	May 397	\$143,590	\$17,342	\$160,932	\$33,347	\$46,967	\$2,286	82.7	\$13,830	\$13,355	\$22,978
May 397		662,908	886,340	1,549,248	185,327	235,372	10,005	87.8	108,480	20,349	114,976
May 204		117,481	24,742	142,223	31,056	49,365	6,093	107.4	-11,605	-42,624	-23,636
May 204		717,783	117,497	835,280	173,517	249,286	34,146	97.8	20,212	-134,853	-201,312
New Orleans & Northeastern.....	May 204										
May 204											
Northern Alabama.....	May 99	29,606	804	30,410	14,143	1,429	1,326	105.9	14,822	-6,990	-3,481
May 100		201,300	6,379	207,679	61,045	7,406	6,310	76.6	50,508	25,019	31,582
May 9,102		6,802,105	1,671,531	8,473,636	1,007,140	1,610,429	3,394,069	75.2	2,334,501	1,214,035	2,682,662
May 9,106		31,919,357	8,252,931	40,172,288	5,108,903	8,517,150	14,766,323	81.1	8,405,148	2,924,978	6,006,778
Southern Pacific.....	May 9,106										
May 9,106											
So. Pacific Steamship Lines.....	May 9,106										
May 9,106											
Texas & New Orleans.....	May 4,618	328,833	24,204	353,037	11,408	117,042	19,833	119.3	-70,954	-69,885	-70,017
May 4,626		1,674,772	108,690	1,783,462	77,805	592,017	90,593	126.8	504,431	-512,081	-521,519
May 4,626		2,069,837	246,742	2,316,579	332,566	531,265	131,914	82.3	473,122	196,557	136,756
May 4,626		10,496,250	1,404,075	11,900,325	2,225,820	2,858,723	661,865	89.4	1,434,366	54,146	238,757
Spokane, Portland & Seattle.....	May 554	327,927	33,991	361,918	48,278	59,289	10,784	70.1	20,660	280,963	39,602
May 555		1,526,581	161,820	1,688,401	235,692	324,381	53,186	77.2	119,949	45,641	12,192
May 555		127,863	4,445	132,308	25,838	21,149	6,257	85.2	106,527	16,900	3,731
May 555		745,846	22,184	768,030	135,563	116,870	36,300	82.0	145,901	123,686	60,691
Tennessee Central.....	May 293										
May 293											
Terminal R. R. Assn. of St. L.....	May 55										
May 55											
Texas & Pacific.....	May 1,950										
May 1,950											
Texas-Mexican.....	May 162	101,187	591	101,778	73,733	31,822	3,851	77.0	19,139	82,645	94,913
May 162		313,502	3,625	317,127	164,197	164,197	19,996	75.5	152,930	171,431	171,431
May 239		110,197	36	110,233	324,976	324,976	65,242	72.5	458,711	171,431	181,340
May 239		536,473	264	536,737	1,028,806	8,709,477	357,001	74.2	2,245,564	1,657,313	1,005,134
Toledo, Peoria & Western.....	May 239										
May 239											
Toledo Terminal.....	May 28										
May 28											
Union R. R. of Penna.....	May 45										
May 45											
Union Pacific.....	May 3,768	4,229,932	542,650	4,772,582	1,909,840	999,840	145,153	55.7	6,612	59,325	38,128
May 3,768		2,556,773	25,597,708	28,154,481	9,225,039	5,225,839	67,787	73.1	33,250	252,369	52,118
May 2,506		1,243,061	113,301	1,356,362	44,539	514,138	47,784	84.1	13,578	94,105	7,347
May 2,506		6,561,482	615,882	7,177,364	220,383	2,907,337	553,339	85.2	44,566	465,602	26,304
Oregon Short Line.....	May 2,506										
May 2,506											
Oregon Wash. R. R. & Nav. Co.....	May 2,338	792,820	97,563	890,383	150,527	150,527	59,751	90.8	4,895	53,272	5,414
May 2,338		4,355,209	488,047	4,843,256	834,702	834,702	300,341	80.3	28,833	278,786	84,233
May 1,249		960,369	164,926	1,125,295	145,719	167,888	56,479	188.7	13,318	-120,611	-98,794
May 1,249		5,123,133	742,933	5,866,066	662,232	965,781	280,394	145.5	53,353	-113,611	-323,161
Los Angeles & Salt Lake.....	May 1,249										
May 1,249											
St. Joseph & Grand Island.....	May 258	173,664	3,093	176,757	102,467	150,676	453,646	95.0	51,062	-108,753	-214,183
May 258		879,000	16,595	895,595	5,497,505	834,702	300,341	92.9	392,087	-406,942	-924,657
May 111		48,695	48,748	97,443	145,719	167,888	56,479	96.1	358,763	211,981	88,233
May 111		510,087	512,285	1,022,372	130,080	130,080	1,934	71.5	1,826,760	1,091,013	445,261
Utah.....	May 111										
May 111											
Virginian.....	May 608	820,514	6,022	826,536	16,500	198,011	27,512	62.2	329,002	203,962	277,752
May 608		5,236,704	37,459	5,274,163	1,134,385	144,030	2,989,341	53.8	1,822,330	2,156,585	2,388,033
May 2,523		2,780,938	222,118	2,999,056	1,337,226	150,073	2,604,095	80.3	3,640,133	4,229,714	70,258
May 2,523		13,832,508	1,107,911	14,940,419	810,987	7,117,101	851,154	85.7	2,315,935	1,265,361	1,161,898
Wabash.....	May 2,523										
May 2,523											
Ann Arbor.....	May 293	254,737	2,768	257,505	37,980	58,567	17,298	90.0	26,693	10,832	-9,095
May 293		1,343,581	16,640	1,360,221	176,267	263,746	70,070	84.4	218,026	121,037	25,183
May 891		5,103,414	35,223	5,138,637	1,000,653	206,423	1,468,540	63.8	1,829,664	1,479,664	1,452,465
Western Maryland.....	May 891										
May 891											
Western Pacific.....	May 1,051	717,466	34,684	752,150	102,117	161,875	39,450	89.6	84,214	-4,050	-9,642
May 1,051		3,525,747	166,449	3,692,196	1,995,835	1,895,835	195,835	99.5	19,333	440,540	-433,810
May 511		482,980	3,493	486,473	770,067	870,254	303,153	100.7	-3,463	-85,346	-104,736
May 511		3,113,421	20,648	3,134,069	3,306,868	445,929	157,448	85.8	469,599	51,492	-38,929
Wichita Falls & Southern.....	May 203	38,201	56	38,257	10,877	7,591	1,552	90.68	3,695	-472	-3,857
May 203		221,619	274	221,893	49,496	38,273	8,978	77.74	51,152	30,307	12,158